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Capitalization Rate Study

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Valuation Division
Stanley Y. Siu, Chief

March 2005

Executive Summary

“The income approach to value includes any method of converting an income stream into a present value estimate (i.e., an indicator of current fair market value). The income approach is also called the capitalization approach because capitalization is the process of converting an expected income into an indicator of value.

The methods or techniques used in the income approach may be relatively simple (e.g., income or rent multipliers and direct capitalization), or more complex (e.g., various yield capitalization techniques). All of these methods are referred to as capitalization techniques because they convert an expected future income stream into a present value estimate.

The income approach requires careful application because small variations in its key variables (capitalization rate, duration of income stream, estimated income and expenses, etc.) will be mathematically leveraged into a wide range of estimated value. This is particularly true for the capitalization rate variable. The accuracy of the income approach is no greater than the validity of the assumptions used to estimate the key variables. The mathematical techniques used in the approach, while sometimes complicated, are merely tools for converting these assumptions into an estimate of current market value.”¹

I. Authority for Capitalization Rate Study

Property Tax Rule 8 (g) (2) provides the authority for the method in which the capitalization rates were developed in this study. The rule states “the capitalization rate may be developed...

By deriving a weighted average of the capitalization rates for debt and for equity capital appropriate to the California money markets (the band-of-investment method) and adding increments for expenses that are excluded from outgo because they are based on the value that is being sought or the income that is being capitalized. The appraiser shall weight the rates for debt and equity capital by the respective amounts of such capital he deems most likely to be employed by prospective purchasers.”

II. Band of Investment Approach

In its simplest form, the band of investment method assumes that a purchaser would pay cash (or equity) for a portion of the property and would borrow the balance of the purchase price. For example:

Debt	30%	x	Cost of Debt	7%	=	2.1%
Equity	70%	x	Cost of Equity	12%	=	8.4%
Weighted Average Cost of Capital						<u>10.5%</u>

¹ Assessors’ Handbook 501, Basic Appraisal, Revised January 2002

Executive Summary

This booklet contains a study for each of the eight major state assessee industry groups² in California. Industry data was compiled by groups with similar Value Line financial ratings.

Generally accepted appraisal procedures were used to estimate the cost of capital for debt and equity. The long term debt cost is the cost for a particular risk class of debt on the lien date. The equity rate reflects the rate of return or compensation that will satisfy the risk that a prospective purchaser would assume by investing in the property.

The rates derived in this study are basic capitalization rates and represent the return on investment only. Any increments required to be added by Property Tax rule 8(g)(2), such as income or ad valorem tax components are in addition to the rates listed.

A. *Capital Structure - Prospective Purchaser vs. Company Specific*

State assessees often ask why the Board does not use the current capital structure of individual companies in the band-of-investment method. As explained in Rule 8 (g)(2), the appraiser shall weight the rates of debt and equity capital by the respective amounts of such capital deemed most likely to be employed by a prospective purchaser.

Therefore, the capital structure contemplated is a representative or typical structure of an industry group of companies with a similar bond rating, not that of the present owner. The objective of doing so is to strike an optimum capital structure from the perspective of a potential investor.

B. *Company Specific Debt Rates*

In many cases the debt component of the capital structure for a prospective purchaser and the individual company being assessed may be similar. In cases where, in the judgement of staff, the debt ratings of the individual companies being assessed and the debt ratings of prospective purchasers are similar, the company-specific bond rating has been used to develop the appropriate debt component of the recommended capitalization rate.

C. *Impact of Holding Companies on Determination of Capital Structure*

Many of the larger state assessees are subsidiaries of their holding company. Stock purchases related to a subsidiary must be made through the parent holding company. Since there is no direct market data for state assessee companies that are subsidiaries of a holding company, staff must rely, in great part, upon market data related to the holding company.

² Gas, Electric & Water; Natural Gas Transmission; Local Exchange; Electric Generation; Interexchange; Wireless; Pipelines; Railroads

Executive Summary

III. *Capital Asset Pricing Model*

The Capital Asset Pricing Model (CAPM) is a widely accepted theory used to estimate the cost of equity capital. In the application the CAPM, the most sensitive component affecting the outcome is the estimate of the beta³ statistic. The choice of different time frames and frequencies of measurement in the calculation of the beta can produce significantly different results. Another factor in the use of beta is the choice of whether to use an unadjusted beta or a beta adjusted to reflect the fact that betas tend to revert to the mean over time. In this study, betas were obtained from three separate sources: one adjusted (Value Line) and two unadjusted. Generally the betas from the three sources are averaged to establish the beta used to estimate the cost of equity capital for a specific industry. In general, the average beta for highly regulated industries such as gas or electric transmission and distribution understates the risk inherent in those securities. For companies in highly regulated environments, the Value Line adjusted beta was chosen as a better estimate of the relative risk in the calculation of the required equity return.

IV. *Flotation Costs*

When new issues of both debt and equity capital are sold to investors, the issuing company incurs transaction costs such as underwriting fees, legal expenses, and prospectus preparation costs. These costs of issuing securities are known as flotation costs. Flotation costs effectively reduce the net proceeds that a firm will receive from issuing securities. This is much like closing costs on a home mortgage. The cost of capital is adjusted upward to reflect the flotation costs incurred to issue the securities. Since the flotation costs are reflected in the weighted average cost of capital, the flotation costs should not be allowed as expenses in projecting cash flows to be capitalized. Each basic capitalization rate in this study has been adjusted to reflect flotation costs.

V. *Size Adjustment*

Investors typically consider small capitalization stocks as riskier investments than large capitalization stocks. It follows that investors require additional return to take on the risk of an investment in a small capitalization stock. According to Ibbotson & Associates⁴, the additional risk is not reflected in the calculation of beta. Where the Capital Asset Pricing Model was relied upon in assigning the cost of capital to companies whose size is ranked in the lower deciles of the New York Stock Exchange, the size premium adjustment as reported by Ibbotson Associates in the 2005 Valuation Edition Yearbook was considered.

³ The covariance of the returns of a security regressed against the returns of the overall market - a measurement of relative volatility

⁴ SBBI: 2005 Valuation Edition Yearbook

Executive Summary

VI. *Utilization of Other Studies and Data*

Staff appraisers considered data and capitalization rate studies submitted by assessees and interested parties and, where appropriate utilized them in the development of the staff derived rates.

The capitalization rates published in this study are intended to be applied to the unitary operations of the companies subject to assessment by the California State Board of Equalization.

**California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Gas, Electric and Water Companies**

SBE No.	Company Name	Ratings			Capital Structure			Rates of Return			Basic Cap Rate
		Financial	Preferred Stock	Bond	Common Equity	Preferred Stock	Debt	Common Equity	Preferred Stock	Debt	
Gas and Electric Companies											
141	San Diego Gas & Electric	A	baa1	A2	52%	2%	46%	10.86%	6.32%	5.98%	8.52%
184	Avista Corporation	B	ba3	Ba1	51%	1%	48%	11.17%	6.39%	6.27%	8.77%
146	PacifiCorp	Not Rated	baa3	Baa1	51%	1%	48%	11.77%	6.35%	6.10%	8.99%
148	Southern California Edison	C++	ba2	Baa1	51%	1%	48%	11.77%	6.38%	6.10%	8.99%
135	Pacific Gas & Electric	C++	ba2	Baa3	51%	1%	48%	11.77%	6.38%	6.21%	9.05%
106	Sierra Pacific Power	C+	caa1	B1	51%	1%	48%	11.77%	6.45%	6.44%	9.16%
191	Arizona Public Service Company	Not Rated		Baa1	50%		50%	12.04%		6.10%	9.07%
103	Anza Electric Cooperative	Not Rated		Not Rated	50%		50%	12.04%		6.62%	9.33%
160	Valley Electric Association	Not Rated		Not Rated	50%		50%	12.04%		6.62%	9.33%
173	Surprise Valley Electrification	Not Rated		Not Rated	50%		50%	12.04%		6.62%	9.33%
176	Plumas-Sierra Rural Electric	Not Rated		Not Rated	50%		50%	12.04%		6.62%	9.33%
185	Mountain Utilities	Not Rated		Not Rated	50%		50%	12.04%		6.62%	9.33%
193	Southwest Transmission Coop., Inc.	Not Rated		Not Rated	50%		50%	12.04%		6.62%	9.33%
Natural Gas Distribution Companies											
149	Southern California Gas	A	baa1	A2	52%	2%	46%	11.33%	6.32%	5.98%	8.77%
152	Southwest Gas	B	baa3	Baa2	51%	1%	48%	11.72%	6.35%	6.15%	8.99%
192	Alpine Natural Gas	Not Rated		Not Rated	50%		50%	12.24%		6.62%	9.43%
194	West Coast Gas Company, Inc.	Not Rated		Not Rated	50%		50%	12.24%		6.62%	9.43%
195	Wild Goose, Inc.	Not Rated		Not Rated	50%		50%	12.24%		6.62%	9.43%
198	Lodi Gas Storage, LLC	Not Rated		Not Rated	50%		50%	12.24%		6.62%	9.43%
Water Companies											
101	Southern California Water	B+		A2	50%		50%	10.58%		5.98%	8.28%

**California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Natural Gas Transmission Companies**

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Common Equity	Bond	Common Equity	Debt	Common Equity	Debt	
153	Transwestern Pipeline Company	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%
180	North Baja Pipeline, LLC	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%
187	Mojave Pipeline Company	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%
188	Kern River Gas Transmission Company	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%
189	Standard Pacific Gas Line, Inc.	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%
190	Tuscarora Gas Transmission Company	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%
196	Questar Southern Trails Pipeline Company	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%
197	El Paso Natural Gas Company	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%

**California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Local Exchange Companies**

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Financial	Bond	Common Equity	Debt	Common Equity	Debt	
201	Verizon California Inc.	A+	A1	80%	20%	11.78%	5.94%	10.61%
279	Pacific Bell Telephone Company	A+	A2	80%	20%	11.78%	5.98%	10.62%
284	CTC of California	Not Rated	Not Rated	70%	30%	13.09%	6.15%	11.01%
294	SureWest Telephone	Not Rated	Not Rated	70%	30%	13.09%	6.15%	11.01%
	Other Local Exchange Companies	Not Rated	Not Rated	70%	30%	14.40%	6.92%	12.16%

**California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Electric Generation**

Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
	Financial	Bond	Common Equity	Debt	Common Equity	Debt	
Recently Constructed Facilities ¹	C+	NR	60%	40%	14.46%	7.12%	11.52%
Composite Facilities ²	C+	NR	60%	40%	15.63%	7.12%	12.23%
Older Facilities ³	C+	NR	60%	40%	16.41%	7.63%	12.90%

¹ Recently Constructed Facilities - Facilities constructed after September 1996 incorporating modern electric generation technologies at the time they were built.

² Composite Facilities - Facilities that were sold off by vertically integrated electric utilities and for which replacements of some obsolete generation units with modern electric generation technologies have been made.

³ Older Facilities - Facilities that were sold off by vertically integrated electric utilities for which no replacements, other than for routine maintenance, have been made.

**California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Interexchange Telephone Companies**

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Common Equity	Bond	Common Equity	Long Term Debt	Common Equity	Long Term Debt	
2014	Sprint Communications Co., L.P.	B	Baa3	65%	35%	14.40%	6.21%	11.53%
2310	AT&T Communications, Inc.	B	Ba1	65%	35%	14.40%	6.27%	11.55%
7677	Talk America, Inc.	B	NR	65%	35%	14.40%	7.18%	11.87%
7522	Time Warner Telecom of California, L.P.	C+	B3	55%	45%	16.49%	6.56%	12.02%
2463	Qwest Communications Corporation	C+	Caa1	55%	45%	16.49%	6.87%	12.16%
2043	Pac West Telecomm, Inc.	C+	NR	55%	45%	16.49%	7.18%	12.30%
7686	Primus Telecommunications, Inc.	C+	Caa2	55%	45%	16.49%	7.18%	12.30%
7761	Level 3 Communications, Inc.	C	Ca	55%	45%	16.49%	7.81%	12.58%
	Other Interexchange Carriers	Not Rated	Not Rated	55%	45%	19.63%	8.26%	14.51%
	Other Interexchange Resellers	Not Rated	Not Rated	55%	45%	22.77%	9.02%	16.59%

California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Wireless Companies

SBE No.	Company Name	Rating	Capital Structure		Rates of Return		Basic Cap Rate
			Common Equity	Debt	Common Equity	Debt	
2512	Verizon Wireless (VAW) LLC	NR-1	70%	30%	13.17%	6.15%	11.07%
2513	Sacramento Valley Limited Partnership	NR-1	70%	30%	13.17%	6.15%	11.07%
2532	Los Angeles SMSA Ltd. Partnership	NR-1	70%	30%	13.17%	6.15%	11.07%
2559	GTE Mobilnet of California, Ltd. Partnership	NR-1	70%	30%	13.17%	6.15%	11.07%
2606	AT&T Wireless Services of California, LLC	NR-1	70%	30%	13.17%	6.15%	11.07%
2748	Pacific Bell Wireless, LLC	NR-1	70%	30%	13.17%	6.15%	11.07%
2756	Cingular Wireless, LLC	NR-1	70%	30%	13.17%	6.15%	11.07%
2720	Sprint Telephony PCS, L.P.	NR-2	65%	35%	13.87%	6.66%	11.35%
2722	Sprint Spectrum L.P.	NR-2	65%	35%	13.87%	6.66%	11.35%
2737	Nextel of California, Inc.	NR-2	65%	35%	13.87%	6.66%	11.35%
2755	Southwestern Bell Mobile Systems, LLC	NR-2	65%	35%	13.87%	6.66%	11.35%
2761	OmniPoint Communications Inc.	NR-2	65%	35%	13.87%	6.66%	11.35%
2552	Fresno MSA Limited Partnership	NR-3	60%	40%	14.60%	7.17%	11.63%
2627	GTE Mobilnet of Santa Barbara, L.P.	NR-3	60%	40%	14.60%	7.17%	11.63%
2671	California Rural Service Area #1, Inc.	NR-3	60%	40%	14.60%	7.17%	11.63%
2733	Metro PCS California/Florida, Inc.	NR-3	60%	40%	14.60%	7.17%	11.63%
2745	West Coast P.C.S.	NR-3	60%	40%	14.60%	7.17%	11.63%
	Other Wireless Companies	NR-4	60%	40%	17.00%	7.68%	13.27%
	Wireless Reseller Companies	NR-5	60%	40%	19.50%	8.19%	14.98%

NR-1: Companies providing service to large and more mature wireless markets in California
NR-2: Companies providing service to large to midsize wireless markets in California
NR-3: Companies providing service to midsize wireless markets in California
NR-4: Other wireless carriers (including Radio Telephone companies)
NR-5: All wireless reseller companies

California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Pipeline Companies

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Common Equity	Bond	Common Equity	Debt	Equity	Debt	
461	SFPP, L.P.	NR-1	NR-b	65%	35%	12.57%	6.20%	10.34%
402	CALNEV Pipe Line LLC	NR-1	NR-b	65%	35%	12.57%	6.20%	10.34%
465	Plains Pipeline, L.P.	NR-2	NR-b	65%	35%	13.09%	6.20%	10.68%
479	Chevron Pipeline Company	NR-2	NR-b	65%	35%	13.09%	6.20%	10.68%
468	Shell California Pipeline Company LLC	NR-2	NR-b	65%	35%	13.09%	6.20%	10.68%
486	Pacific Pipeline System, LLP	NR-2	NR-b	65%	35%	13.09%	6.20%	10.68%
480	UNOCAP	NR-2	NR-b	65%	35%	13.09%	6.20%	10.68%
	Other Pipeline Companies	NR-3	NR-c	65%	35%	14.14%	7.22%	11.71%

**California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Railroads**

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Common Equity	Bond	Common Equity	Debt	Common Equity	Debt	
804	Burlington Northern Santa Fe Railroad Co.	B+	Baa2	66%	34%	13.61%	6.20%	11.09%
843	Union Pacific Railroad Company	B+	Baa2	66%	34%	13.61%	6.20%	11.09%
802	Central Oregon and Pacific Railroad	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
810	California Northern Railroad	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
813	Pacific Harbor Lines	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
850	Modesto and Empire Traction Company	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
865	San Diego & Imperial Valley Railroad Co. Inc.	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
882	Trona Railway Co.	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
897	San Joaquin Valley Railroad Company	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
899	ParkSierra Corporation	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
	Other Railroad Companies	N/R-2	N/R-2	60%	40%	15.97%	8.74%	13.08%

**California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Gas, Electric and Water Companies**

SBE No.	Company Name	Ratings			Capital Structure			Rates of Return			Basic Cap Rate
		Financial	Preferred Stock	Bond	Common Equity	Preferred Stock	Debt	Common Equity	Preferred Stock	Debt	
Gas and Electric Companies											
141	San Diego Gas & Electric	A	baa1	A2	52%	2%	46%	10.86%	6.32%	5.98%	8.52%
184	Avista Corporation	B	ba3	Ba1	51%	1%	48%	11.17%	6.39%	6.27%	8.77%
146	PacifiCorp	Not Rated	baa3	Baa1	51%	1%	48%	11.77%	6.35%	6.10%	8.99%
148	Southern California Edison	C++	ba2	Baa1	51%	1%	48%	11.77%	6.38%	6.10%	8.99%
135	Pacific Gas & Electric	C++	ba2	Baa3	51%	1%	48%	11.77%	6.38%	6.21%	9.05%
106	Sierra Pacific Power	C+	caa1	B1	51%	1%	48%	11.77%	6.45%	6.44%	9.16%
191	Arizona Public Service Company	Not Rated		Baa1	50%		50%	12.04%		6.10%	9.07%
103	Anza Electric Cooperative	Not Rated		Not Rated	50%		50%	12.04%		6.62%	9.33%
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173	Surprise Valley Electrification	Not Rated		Not Rated	50%		50%	12.04%		6.62%	9.33%
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193	Southwest Transmission Coop., Inc.	Not Rated		Not Rated	50%		50%	12.04%		6.62%	9.33%
Natural Gas Distribution Companies											
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192	Alpine Natural Gas	Not Rated		Not Rated	50%		50%	12.24%		6.62%	9.43%
194	West Coast Gas Company, Inc.	Not Rated		Not Rated	50%		50%	12.24%		6.62%	9.43%
195	Wild Goose, Inc.	Not Rated		Not Rated	50%		50%	12.24%		6.62%	9.43%
198	Lodi Gas Storage, LLC	Not Rated		Not Rated	50%		50%	12.24%		6.62%	9.43%
Water Companies											
101	Southern California Water	B+		A2	50%		50%	10.58%		5.98%	8.28%

**2005 Capitalization Rate Study
Gas, Electric and Water Companies
Industry Notes**

- As of January 1, 2004, the re-regulation of the electric generation operations of Pacific Gas & Electric Company (PG&E) and Southern California Edison Company (SCE) essentially returned all major electric public utilities in California to regulation under the CPUC. The objective of the 2005 capitalization rate study is to develop capitalization rates that reflect regulated gas and electric operations.
- While the sample companies from which the capitalization rates were derived were engaged primarily in regulated gas and electric and gas distribution operations, these companies also have nonregulated operations that influence the results of the sample. Staff considered the equity rates derived from the sample as well as reliance on recent California Public Utilities Commission decisions that established rates of return. Capital structures were developed based on the results of sample companies and staff judgement considering the relative risk of the utilities. The staff also considered capitalization rate studies submitted by PG&E and SCE.
- The Discounted Cash Flow (DCF) model was relied upon to establish the return on equity (ROE) for water companies.

**2005 Capitalization Rate Study
Gas and Electric Companies
Flotation Cost Adjustment**

Equity				Preferred Stock				Debt			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
A	10.37%	4.50%	10.86%					Aa3	5.79%	1.70%	5.89%
B++	10.67%	4.50%	11.17%	¹ baa1	6.22%	1.70%	6.32%	A2	5.88%	1.70%	5.98%
B	10.67%	4.50%	11.17%	baa2	6.23%	1.70%	6.34%	A3	5.94%	1.70%	6.04%
C++	11.24%	4.50%	11.77%	¹ baa3	6.24%	1.70%	6.35%	Baa1	5.99%	1.70%	6.10%
C	11.24%	4.50%	11.77%	¹ ba2	6.27%	1.70%	6.38%	Baa2	6.05%	1.70%	6.15%
NR	11.50%	4.50%	12.04%	ba3	6.28%	1.70%	6.39%	Baa3	6.11%	1.70%	6.21%
				b3	6.32%	1.70%	6.43%	Ba1	6.16%	1.70%	6.27%
				caa1	6.34%	1.70%	6.45%	Ba2	6.22%	1.70%	6.33%
				caa3	6.35%	1.70%	6.46%	B1	6.33%	1.70%	6.44%
								B3	6.45%	1.70%	6.56%
								NR	6.50%	1.70%	6.62%

¹ In CPUC decision D 04-12-047, dated December 16, 2004, the rate of return on equity for PG&E was set at 11.22% and SCE at 11.40%

Formula : Cost of Capital Adjusted for Flotation Costs:

$$\text{Adjusted Rate} = \frac{k_u}{1 - f}$$

Where k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

**2005 Capitalization Rate Study
Gas and Electric Companies
Summary of Rates of Return**

Common Equity		Perferred Stock			Bonds		
Value Line Rating	Rate of Return ¹	Moody's P/S Yields	Moody Rating	Rate of Return ²	Moody's Bond Yields	Moody Rating	Rate of Return ²
A	10.37%		aa1	6.17%	Aaa=NA	Aaa2	5.60%
B++	10.67%	aa=NA	aa2	6.18%		Aaa3	5.65%
B	10.67%		aa3	6.18%		Aa1	5.70%
C++	11.24%		a1	6.18%	Aa=5.75%	Aa2	5.75%
C	11.24%	a=6.19%	a2	6.19%		Aa3	5.79%
NR	11.50% ³		a3	6.20%		A1	5.84%
			baa1	6.22%	A=5.88%	A2	5.88%
		baa=6.23%	baa2	6.23%		A3	5.94%
			baa3	6.24%		Baa1	5.99%
			ba1	6.26%	Baa=6.05%	Baa2	6.05%
			ba2	6.27%		Baa3	6.11%
			ba3	6.28%		Ba1	6.16%
			b1	6.30%		Ba2	6.22%
			b2	6.31%		Ba3	6.28%
			b3	6.32%		B1	6.33%
			caa1	6.34%		B2	6.39%
			caa3	6.35%		B3	6.45%
						NR	6.50%

¹ The Rate of Return on Common Equity was developed by staff based on the relative risk of the utilities in conjunction with the results of the various financial models and pertinent information from various sources.

Consideration was given to the recent California Public Utilities Commission (CPUC) decisions that established rates of return. The test year 2005 return on equity (ROE) for SCE is 11.40% which results in a corresponding 9.07% return on rate base. The test year 2005 ROE for PG&E is 11.22% which results in a corresponding 8.77% return on rate base. Effective 1/1/2005, SDG&E's authorized ROE is 10.37% with a weighted average cost of capital (WACC) of 8.18%. Southern California Gas has an authorized ROE of 10.82% and a WACC of 8.68%.

² Rates of Return on Preferred Stocks and Bonds were based on Moody's "Utility Preferred Stock Yields", December 2004, and "Utility Bond Yields" as of the January 2005 report. However, because Moody assigns a yield to the groups Aaa, Aa, A and Baa for bonds; and aa, a, and baa for preferred stocks, the staff interpolates the difference between these groups in order to achieve a further refinement of the ratings.

³ For companies whose common equity are not rated (NR), staff judgment is used in assigning the rates of return because the circumstances or reasons for not rating the common equity are different for each company.

**2005 Capitalization Rate Study
Gas and Electric Companies
Capital Asset Pricing Model - Ex Ante**

Component	Value Line Ratings		
	A++, A+	B++, B+, B	C++, C+, C
Expected Future Return, S&P 500 ³	12.32%	12.32%	12.32%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.88%	4.88%	4.88%
Risk Premium	7.44%	7.44%	7.44%
Beta ²	0.70	0.70	1.05
Adjusted Risk Premium	5.21%	5.21%	7.81%
Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.88%	4.88%	4.88%
Projected Return on Common Equity	10.09%	10.09%	12.69%

¹ Wall Street Journal 12/31/04 data.

² The estimated betas are based on the gas and electric beta analysis. Staff is placing greater reliance on Value Line's median beta.

³ Dividend Yield for S&P 500 @ 12/31/2004

5 Year projected growth per First Call

Expected future return, S&P 500

1.72%

10.60%

12.32%

2005 Capitalization Rate Study
Gas and Electric Companies
Capital Asset Pricing Model - Ex Post

Component	Value Line Ratings		
	A++, A+	B++, B+, B	C++, C+
Common Stock Return (1926 - 2004) ¹	12.40%	12.40%	12.40%
Less: Income-Long Term Government Bonds (1926-2004) ¹	5.20%	5.20%	5.20%
Risk Premium	7.20%	7.20%	7.20%
Beta ²	0.70	0.70	1.05
Adjusted Risk Premium	5.04%	5.04%	7.56%
Risk Free Return 25 - 30 Year Treasury Bonds ³	4.88%	4.88%	4.88%
Projected Return on Common Equity	9.92%	9.92%	12.44%

¹ Ibbotson Associates Study.

² The estimated betas are based on the gas and electric beta analysis. Staff is placing greater reliance on Value Line's median beta.

³ Wall Street Journal 1/3/05 data.

2005 Capitalization Rate Study
Gas and Electric Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/04	Est. 2005 Earnings	2004 Earnings	2004 Dividends	Est. 2005 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DvYld+ DvGrth (h+i)	DvYld+ ErngsGr (h+j)
A++	Consolidated Edison	43.75	2.80	2.65	2.26	2.28	5.21%	1.00%	1.61%	6.40%	6.21%	6.82%
A+	Ameren	50.14	2.85	2.70	2.54	2.54	5.07%	0.00%	2.00%	5.68%	5.07%	7.07%
A+	FPL Group Inc	74.75	5.10	4.90	2.60	2.84	3.80%	7.50%	4.49%	6.82%	11.30%	8.29%
A	Allete	36.75	1.85	1.35	0.00	1.20	3.27%	0.00%	4.22%	5.03%	3.27%	7.48%
A	CH Energy Group	48.05	2.45	2.80	2.16	2.16	4.50%	0.00%	0.50%	5.10%	4.50%	5.00%
A	Cinergy Corp	41.63	2.60	2.20	1.88	1.92	4.61%	2.00%	3.46%	6.25%	6.61%	8.07%
A	Entergy Corp	67.59	4.60	3.70	1.89	2.16	3.20%	9.50%	6.14%	6.81%	12.70%	9.33%
A	Exelon Corp	44.07	3.00	2.85	1.26	1.60	3.63%	12.50%	5.40%	6.81%	16.13%	9.03%
A	Great Plains Energy	30.28	2.25	2.20	1.66	1.66	5.48%	1.50%	3.47%	7.43%	6.98%	8.95%
A	Hawaiian Electric	29.15	1.70	1.45	1.24	1.24	4.25%	1.00%	3.50%	5.83%	5.25%	7.75%
A	MGE Energy Inc	36.03	2.00	1.80	1.36	1.37	3.80%	0.50%	6.00%	5.55%	4.30%	9.80%
A	NStar	54.28	3.65	3.55	2.24	2.30	4.24%	2.50%	4.11%	6.72%	6.74%	8.35%
A	Otter Tail Corp	25.53	1.50	1.45	1.10	1.12	4.39%	2.00%	3.39%	5.88%	6.39%	7.78%
A	Scana Corp	39.40	2.90	2.75	1.46	1.54	3.91%	5.50%	5.00%	7.36%	9.41%	8.91%
A	Sempra	36.68	3.30	3.35	1.00	1.00	2.73%	0.00%	5.51%	9.00%	2.73%	8.24%
A	Southern Co	33.52	2.10	2.00	1.42	1.46	4.36%	4.00%	4.54%	6.26%	8.36%	8.89%
A	Vectren Corp	26.80	1.75	1.50	1.15	1.19	4.44%	3.00%	5.89%	6.53%	7.44%	10.33%
	Mean						4.17%	3.09%	4.07%	6.44%	7.26%	8.24%
	Median						4.25%	2.00%	4.22%	6.40%	6.61%	8.29%
	Weighted Average										9.77%	8.49%

Source: Columns a, b, d, e, f, g and i were extracted from Value Line.

Source: Column j represents the average estimated earnings growth extracted from Value Line, Zacks.com and Thomson FN First Call.com.

Source: Column c was extracted from Yahoo Finance and represents 12/31/04 closing stock prices.

2005 Capitalization Rate Study
Gas and Electric Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/04	Est. 2005 Earnings	2004 Earnings	2004 Dividends	Est. 2005 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DvYld+ DvGrth (h+i)	DvYld+ ErngsGr (h+j)
B++	Central Vermot PS	23.26	1.55	1.45	0.92	0.94	4.04%	3.00%	6.00%	6.66%	7.04%	10.04%
B++	Green Mountain Power	28.83	2.20	2.15	0.88	0.98	3.40%	12.50%	3.50%	7.63%	15.90%	6.90%
B++	OGE Energy Corp	26.51	1.60	1.65	1.33	1.33	5.02%	1.00%	4.11%	6.04%	6.02%	9.13%
B++	Wisconsin Energy	33.71	2.20	1.90	0.83	0.87	2.58%	4.00%	5.49%	6.53%	6.58%	8.07%
B+	DTE Energy Co	43.13	3.30	2.60	2.06	2.06	4.78%	0.00%	5.33%	7.65%	4.78%	10.11%
B+	El Paso Electric	18.94	1.00	0.80	Nil	0.00	0.00%	0.00%	10.50%	5.28%	0.00%	10.50%
B+	Empire District	22.68	1.35	0.85	1.28	1.28	5.64%	0.00%	4.67%	5.95%	5.64%	10.31%
B+	Northeast Utilities	18.85	1.20	1.35	0.63	0.67	3.55%	9.50%	5.92%	6.37%	13.05%	9.47%
B+	Puget Energy, Inc.	24.70	1.55	1.25	1.00	1.00	4.05%	-3.00%	6.67%	6.28%	1.05%	10.72%
B	Avista Corporation	17.67	1.25	0.70	0.52	0.54	3.06%	6.50%	5.61%	7.07%	9.56%	8.67%
B	DPL Inc	25.11	1.75	1.70	0.96	0.98	3.90%	1.50%	5.50%	6.97%	5.40%	9.40%
B	Duquesne Light	18.85	1.25	1.15	1.00	1.00	5.31%	-4.00%	6.33%	6.63%	1.31%	11.64%
	Mean						3.78%	2.58%	5.80%	6.59%	6.36%	9.58%
	Median						3.97%	1.25%	5.56%	6.58%	5.83%	9.76%
	Weighted Average										5.56%	9.66%

Source: Columns a, b, d, e, f, g and i were extracted from Value Line.

Source: Column j represents the average estimated earnings growth extracted from Value Line, Zacks.com and Thomson FN First Call.com.

Source: Column c was extracted from Yahoo Finance and represents 12/31/04 closing stock prices.

2005 Capitalization Rate Study
Gas and Electric Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/04	Est. 2005 Earnings	2004 Earnings	2004 Dividends	Est. 2005 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DvYld+ DvGrth (h+i)	DvYld+ ErngsGr (h+j)
C++	Centerpoint Energy	11.30	0.50	0.20	0.40	0.40	3.54%	NMF	4.86%	4.42%	NMF	8.40%
C++	CMS Energy	10.45	0.70	0.80	0.00	0.00	0.00%	NMF	3.00%	6.70%	NMF	3.00%
C++	Edison International	32.03	2.25	2.20	0.80	1.00	3.12%	NMF	5.14%	7.02%	NMF	8.27%
C++	PG&E Corporation	33.28	2.15	2.10	Nil	0.90	2.70%	NMF	6.14%	6.46%	NMF	8.84%
C++	Unisource Energy	24.11	1.55	1.55	0.64	0.00	0.00%	NMF	0.00%	6.43%	NMF	0.00%
C+	Allegheny Energy	19.71	1.15	0.55	Nil	0.00	0.00%	NMF	3.50%	5.83%	NMF	3.50%
C+	Sierra Pacific	10.50	0.30	0.60	Nil	0.00	0.00%	NMF	3.00%	2.86%	NMF	3.00%
	Mean						1.34%		3.66%	5.68%		5.00%
	Median						0.00%		3.50%	6.43%		3.50%
	Weighted Average											7.19%

Source: Columns a, b, d, e, f, g and i were extracted from Value Line.

Source: Column j represents the average estimated earnings growth extracted from Value Line, Zacks.com and Thomson FN First Call.com.

Source: Column c was extracted from Yahoo Finance and represents 12/31/04 closing stock prices.

**2005 Capitalization Rate Study
Gas and Electric Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
A++	Consolidated Edison	-1.00%	3.00%	2.82%	1.61%
A+	Ameren	-0.50%	3.00%	3.50%	2.00%
A+	FPL Group Inc	4.00%	5.00%	4.46%	4.49%
A	Allete	NMF	4.00%	4.43%	4.22%
A	CH Energy Group	0.50%	NA	NA	0.50%
A	Cinergy Corp	2.00%	4.00%	4.38%	3.46%
A	Entergy Corp	7.00%	6.00%	5.41%	6.14%
A	Exelon Corp	6.00%	5.00%	5.21%	5.40%
A	Great Plains Energy	4.00%	3.00%	3.40%	3.47%
A	Hawaiian Electric	4.00%	4.00%	2.50%	3.50%
A	MGE Energy Inc	6.00%	NA	NA	6.00%
A	NStar	3.00%	5.00%	4.33%	4.11%
A	Otter Tail Corp	0.50%	5.00%	4.67%	3.39%
A	Scana Corp	5.50%	5.00%	4.50%	5.00%
A	Sempra Energy	5.00%	5.00%	6.53%	5.51%
A	Southern Co	5.00%	4.00%	4.61%	4.54%
A	Vectren Corp	5.00%	6.00%	6.67%	5.89%
B++	Central Vermont PS	6.00%	NA	NA	6.00%
B++	Green Mountain Power	3.50%	NA	NA	3.50%
B++	OGE Energy Corp	5.00%	4.00%	3.33%	4.11%
B++	Wisconsin Energy	4.50%	6.00%	5.96%	5.49%
B+	DTE Energy Co	7.50%	4.00%	4.50%	5.33%
B+	El Paso Electric	10.50%	NA	NA	10.50%
B+	Empire District	6.50%	5.00%	2.50%	4.67%
B+	Northeast Utilities	8.50%	5.00%	4.25%	5.92%
B+	Puget Energy, Inc.	8.50%	5.00%	6.50%	6.67%
B	Avista Corporation	7.50%	5.00%	4.33%	5.61%
B	DPL Inc	7.50%	5.00%	4.00%	5.50%
B	Duquesne Light	11.00%	5.00%	3.00%	6.33%

**2005 Capitalization Rate Study
Gas and Electric Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
C++	Centerpoint Energy	NMF	3.00%	6.72%	4.86%
C++	CMS Energy	NMF	3.00%	3.00%	3.00%
C++	Edison International	4.50%	6.00%	4.93%	5.14%
C++	PG&E Corp.	NMF	6.00%	6.27%	6.14%
C++	Unisource Energy	NMF	NA	NA	0.00%
C+	Allegheny Energy	NMF	NA	3.50%	3.50%
C+	Sierra Pacific	NMF	NA	3.00%	3.00%
	Mean	5.07%	4.61%	4.44%	4.57%
	Median	5.00%	5.00%	4.41%	4.76%

2005 Capitalization Rate Study
Gas and Electric Companies
Capital Structure

a	b	c	d	e	f	g	h	i	j	k	l
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/04	Mkt Value Equity (\$millions)	L.T. Debt (\$millions)	Pfd Stock (\$millions)	Common Equity (\$millions)	Total Capital (\$millions)	L.T. Debt %	Pfd Stock %	Common Equity %
A++	Consolidated Edison	241,451,273	43.75	10,563.49	6,971.00	212.60	10,563.49	17,747.09	39.3%	1.2%	59.5%
A+	Ameren	194,796,533	50.14	9,767.10	6,164.00	216.00	9,767.10	16,147.10	38.2%	1.3%	60.5%
A+	FPL Group Inc	185,588,626	74.75	13,872.75	8,551.00	5.00	13,872.75	22,428.75	38.1%	0.0%	61.9%
A	Allete	29,552,037	36.75	1,086.04	389.50	0.00	1,086.04	1,475.54	26.4%	0.0%	73.6%
A	CH Energy Group	15,762,000	48.05	757.36	285.90	21.00	757.36	1,064.26	26.9%	2.0%	71.2%
A	Cinergy Corp	181,244,979	41.63	7,545.23	3,935.90	62.80	7,545.23	11,543.93	34.1%	0.5%	65.4%
A	Entergy Corp	223,544,623	67.59	15,109.38	7,219.60	352.90	15,109.38	22,681.88	31.8%	1.6%	66.6%
A	Exelon Corp	662,549,435	44.07	29,198.55	12,756.00	87.00	29,198.55	42,041.55	30.3%	0.2%	69.5%
A	Great Plains Energy	74,317,784	30.28	2,250.34	1,208.50	39.00	2,250.34	3,497.84	34.5%	1.1%	64.3%
A	Hawaiian Electric	80,520,051	29.15	2,347.16	1,136.60	34.40	2,347.16	3,518.16	32.3%	1.0%	66.7%
A	MGE Energy Inc	20,272,020	36.03	730.40	202.20	0.00	730.40	932.60	21.7%	0.0%	78.3%
A	NStar	53,207,420	54.28	2,888.10	2,207.90	43.00	2,888.10	5,139.00	43.0%	0.8%	56.2%
A	Otter Tail Corp	26,066,173	25.53	665.47	261.30	15.50	665.47	942.27	27.7%	1.6%	70.6%
A	Scana Corp	112,331,818	39.40	4,425.87	3,185.00	115.00	4,425.87	7,725.87	41.2%	1.5%	57.3%
A	Sempra	231,795,224	36.68	8,502.25	4,419.00	179.00	8,502.25	13,100.25	33.7%	1.4%	64.9%
A	Southern Co	739,686,919	33.52	24,794.31	12,707.00	569.70	24,794.31	38,071.01	33.4%	1.5%	65.1%
A	Vectren Corp	75,981,012	26.80	2,036.29	1,065.00	1.00	2,036.29	3,102.29	34.3%	0.0%	65.6%
	Mean								33.4%	0.9%	65.7%
	Median								33.7%	1.1%	65.4%
	Weighted Average								34.4%	0.9%	64.7%

Source: Columns a, b, c, f and g were extracted from Value Line.

Source: Column d was extracted from Yahoo Finance and represents 12/31/04 closing stock prices.

**2005 Capitalization Rate Study
Gas and Electric Companies
Capital Structure**

a	b	c	d	e	f	g	h	i	j	k	l
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/04	Mkt Value Equity (\$millions)	L.T. Debt (\$millions)	Pfd Stock (\$millions)	Common Equity (\$millions)	Total Capital (\$millions)	L.T. Debt %	Pfd Stock %	Common Equity %
B++	Central Vermont PS	12,163,622	23.26	282.93	136.60	15.10	282.93	434.63	31.4%	3.5%	65.1%
B++	Green Mountain	5,121,479	28.83	147.65	98.00	0.00	147.65	245.65	39.9%	0.0%	60.1%
B++	OGE Energy Corp	88,980,115	26.51	2,358.86	1,533.80	0.00	2,358.86	3,892.66	39.4%	0.0%	60.6%
B++	Wisconsin Energy	117,027,363	33.71	3,944.99	3,065.20	30.40	3,944.99	7,040.59	43.5%	0.4%	56.0%
B+	DTE Energy Co	173,958,093	43.13	7,502.81	7,627.00	0.00	7,502.81	15,129.81	50.4%	0.0%	49.6%
B+	El Paso Electric	47,591,765	18.94	901.39	563.10	0.00	901.39	1,464.49	38.5%	0.0%	61.5%
B+	Empire District	25,624,057	22.68	581.15	400.10	0.00	581.15	981.25	40.8%	0.0%	59.2%
B+	Northeast Utilities	128,384,407	18.85	2,420.05	4,432.00	116.20	2,420.05	6,968.25	63.6%	1.7%	34.7%
B+	Puget Energy, Inc.	99,486,648	24.70	2,457.32	2,105.30	1.90	2,457.32	4,564.52	46.1%	0.0%	53.8%
B	Avista Corporation	48,411,190	17.67	855.43	1,022.30	29.80	855.43	1,907.53	53.6%	1.6%	44.8%
B	DPL Inc	126,501,404	25.11	3,176.45	2,117.00	22.90	3,176.45	5,316.35	39.8%	0.4%	59.7%
B	Duquesne Light	76,878,545	18.85	1,449.16	958.00	146.40	1,449.16	2,553.56	37.5%	5.7%	56.8%
	Mean								43.7%	1.1%	55.2%
	Median								40.3%	0.2%	58.0%
	Weighted Average								47.6%	0.8%	51.6%

Source: Columns a, b, c, f and g were extracted from Value Line.

Source: Column d was extracted from Yahoo Finance and represents 12/31/04 closing stock prices.

2005 Capitalization Rate Study
Gas and Electric Companies
Capital Structure

a	b	c	d	e	f	g	h	i	j	k	l
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/04	Mkt Value Equity (\$millions)	L.T. Debt (\$millions)	Pfd Stock (\$millions)	Common Equity (\$millions)	Total Capital (\$millions)	L.T. Debt %	Pfd Stock %	Common Equity %
C++	Centerpoint Energy	307,821,461	11.30	3,478.38	10,456.00	0.00	3,478.38	13,934.38	75.0%	0.0%	25.0%
C++	CMS energy	195,725,703	10.45	2,045.33	7,230.00	305.00	2,045.33	9,580.33	75.5%	3.2%	21.3%
C++	Edison International	325,811,206	32.03	10,435.73	14,230.00	129.00	10,435.73	24,794.73	57.4%	0.5%	42.1%
C++	PG&E	425,035,028	33.28	14,145.17	8,726.00	286.00	14,145.17	23,157.17	37.7%	1.2%	61.1%
C++	Unisource Energy	34,264,498	24.11	826.12	2,010.20	0.00	826.12	2,836.32	70.9%	0.0%	29.1%
C+	Allegheny Energy	137,257,750	19.71	2,705.35	4,824.00	74.00	2,705.35	7,603.35	63.4%	1.0%	35.6%
C+	Sierra Pacific	117,330,107	10.50	1,231.97	3,840.00	50.00	1,231.97	5,121.97	75.0%	1.0%	24.1%
	Mean								65.0%	1.0%	34.0%
	Median								70.9%	1.0%	29.1%
	Weighted Average								59.0%	1.0%	40.0%

Source: Columns a ,b, c, f and g were extracted from Value Line.

Source: Column d was extracted from Yahoo Finance and represents 12/31/04 closing stock prices.

**2005 Capitalization Rate Study
Gas and Electric Companies
Beta Analysis**

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zacks Beta	Standard & Poor's Beta	Average Beta	Debt Equity Ratio	Unlevered Beta ¹	WTG Avg Debt/Equity Ratio
A++	Consolidated Edison	0.60	-0.05	-0.10	0.15	0.65	0.43	0.05
A+	Ameren	0.75	0.15	0.12	0.34	0.62	0.55	0.05
A+	FPL Group Inc	0.70	0.29	0.23	0.41	0.62	0.51	0.07
A	CH Energy Group	0.80	0.29	0.22	0.44	0.37	0.66	0.00
A	Cinergy Corp	0.80	0.12	0.06	0.33	0.52	0.61	0.03
A	Entergy Corp	0.75	0.01	-0.03	0.24	0.47	0.59	0.05
A	Exelon Corp	0.70	0.09	0.06	0.28	0.44	0.55	0.09
A	GT Plains Energy	0.80	0.64	0.57	0.67	0.53	0.61	0.01
A	Hawaiin Electric	0.65	0.20	NA	0.43	0.48	0.51	0.01
A	MGE Energy Inc	0.60	0.23	0.20	0.34	0.28	0.51	0.00
A	NStar	0.70	0.30	0.26	0.42	0.75	0.48	0.02
A	Otter Tail Corp	0.60	0.04	NA	0.32	0.38	0.49	0.00
A	Scana Corp	0.70	0.25	0.27	0.41	0.70	0.49	0.03
A	Sempra	0.90	0.24	0.18	0.44	0.51	0.69	0.03
A	Southern Co	0.65	-0.23	-0.46	-0.01	0.50	0.50	0.09
A	Vectren Corp	0.75	0.46	NA	0.61	0.52	0.57	0.01
	Mean	0.72	0.19	0.12	0.36	0.52	0.55	0.53
	Median	0.70	0.22	0.18	0.38		0.53	
	Weighted				0.27		0.54	

Relevered Beta based on 50% Debt Capital Structure and mean Unlevered Beta 0.87²

Relevered Beta based on 50% Debt Capital Structure and a weighted average Unlevered Beta 0.86²

Formulas:

¹ Unlevered Beta = Value Line Beta/[1+(1-t)(D/E)]

² Relevered Beta = [Unlevered Beta][1+(1-t)(D/E)]

Where: D/E is the debt to equity ratio

t is the tax rate (assumed to be 40%)

Source: Columns a, b and c were extracted from Value Line.

Source: Column d was extracted from Zacks.com.

Source: Column e was extracted from Standard and Poor's Stock Reports.

Source: Column g was extracted from capital structure worksheet included in the 2005 Capitalization Rate Study.

**2005 Capitalization Rate Study
Gas and Electric Companies
Beta Analysis**

a	b	c	d	e	f	g	h	i
Rating	Company Name	Value Line Beta	Zacks Beta	Standard & Poor's Beta	Average Beta	Debt Equity Ratio	Unlevered Beta ¹	WTG Avg Debt/Equity Ratio
B++	Central Vermont PS	0.50	-0.02	NA	0.24	0.46	0.39	0.00
B++	Green Mountain Power	0.60	-0.12	-0.19	0.10	0.66	0.43	0.00
B++	OGE Energy Corp	0.70	0.34	NA	0.52	0.65	0.50	0.05
B++	Wisconsin Energy	0.70	0.06	0.00	0.25	0.77	0.48	0.11
B+	DTE Energy Co	0.70	0.07	0.03	0.27	1.02	0.43	0.30
B+	El Paso Electric	0.65	0.01	0.00	0.22	0.62	0.47	0.02
B+	Empire District	0.70	0.15	0.06	0.30	0.69	0.50	0.01
B+	Northeast Utilities	0.75	0.43	0.46	0.55	1.75	0.37	0.24
B+	Puget Energy, Inc.	0.75	0.18	0.12	0.35	0.86	0.50	0.08
B	Avista Corporation	0.85	0.40	NA	0.63	1.15	0.50	0.04
B	DPL Inc	0.90	0.54	NA	0.72	0.66	0.64	0.07
B	Duquesne Light	0.75	0.37	0.33	0.48	0.60	0.55	0.03
Mean		0.71	0.20	0.10	0.39	0.82	0.48	0.96
Median		0.70	0.17	0.05	0.33	0.68	0.49	
Weighted					0.40		0.47	
Relevered Beta based on 50% Debt Capital Structure and mean Unlevered Beta							0.77 ²	
Relevered Beta based on 50% Debt Capital Structure and a weighted average Unlevered Beta							0.76 ²	

Formulas:

¹ Unlevered Beta = Value Line Beta/[1+(1-t)(D/E)]

² Relevered Beta = [Unlevered Beta][1+(1-t)(D/E)]

Where: D/E is the debt to equity ratio

t is the tax rate (assumed to be 40%)

Source: Columns a, b and c were extracted from Value Line.

Source: Column d was extracted from Zacks.com.

Source: Column e was extracted from Standard and Poor's Stock Reports.

Source: Column g was extracted from capital structure worksheet included in the 2005 Capitalization Rate Study.

2005 Capitalization Rate Study
Gas and Electric Companies
Beta Analysis

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zacks Beta	Standard & Poor's Beta	Average Beta	Debt Equity Ratio	Unlevered Beta ¹	WTG Avg Debt/Equity Ratio
C++	Centerpoint Energy	0.55	0.70	0.60	0.62	3.01	0.20	0.48
C++	CMS Energy	1.30	1.67	1.57	1.51	3.08	0.46	0.34
C++	Edison International	1.05	0.08	0.14	0.42	1.35	0.58	0.38
C++	PG&E Corporation	1.05	0.47	0.40	0.64	0.60	0.77	0.16
C++	Unisource Energy	0.65	0.53	NA	0.59	2.43	0.26	0.08
C+	Allegheny Energy	1.60	0.89	0.80	1.10	1.74	0.78	0.15
C+	Sierra Pacific	1.00	1.22	1.09	1.10	3.00	0.36	0.18
	Mean	1.03	0.79	0.77	0.85	2.17	0.49	1.77
	Median	1.05	0.70	0.70	0.64	2.43	0.46	
	Weighted				0.74		0.55	

Relevered Beta based on 50% Debt Capital Structure and mean Unlevered Beta 0.78 ²

Relevered Beta based on 50% Debt Capital Structure and a weighted average Unlevered Beta 0.88 ²

Formulas:

¹ Unlevered Beta = Value Line Beta/[1+(1-t)(D/E)]

² Relevered Beta = [Unlevered Beta][1+(1-t)(D/E)]

Where: D/E is the debt to equity ratio

t is the tax rate (assumed to be 40%)

Source: Columns a, b and c were extracted from Value Line.

Source: Column d was extracted from Zacks.com.

Source: Column e was extracted from Standard and Poor's Stock Reports.

Source: Column g was extracted from capital structure worksheet included in the 2005 Capitalization Rate Study.

**2005 Capitalization Rate Study
Natural Gas Distribution Companies
Flotation Cost Adjustment**

Equity				Preferred Stock				Debt			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
A, B++	10.82%	4.50%	11.33%	baa1	6.22%	1.70%	6.32%	A2	5.88%	1.70%	5.98%
B+, B	11.19%	4.50%	11.72%	baa3	6.24%	1.70%	6.35%	Baa2	6.05%	1.70%	6.15%
NR	11.69%	4.50%	12.24%					NR	6.50%	1.70%	6.62%

**2005 Capitalization Rate Study
Natural Gas Distribution Companies
Summary of Rates of Return**

Common Equity		Preferred Stock			Bonds		
Value Line Rating	Rate of Return ¹	Moody's P/S Yields	Moody Rating	Rate of Return ²	Moody's Bond Yields	Moody Rating	Rate of Return ²
A, B++	10.82%	aa=NA	aa1	6.17%	Aaa=NA	Aaa2	5.60%
			aa2	6.18%		Aaa3	5.65%
			aa3	6.18%		Aa1	5.70%
B+, B	11.19%	a=6.19%	a1	6.18%	Aa=5.75%	Aa	5.75%
			a2	6.19%		Aa3	5.79%
			a3	6.20%		A1	5.84%
NR (3)	11.69%	baa=6.23%	baa1	6.22%	A=5.88%	A2	5.88%
			baa2	6.23%		A3	5.94%
			baa3	6.24%		Baa1	5.99%
		Baa=6.05%	ba1	6.26%		Baa	6.05%
			ba2	6.27%		Baa3	6.11%
			ba3	6.28%		Ba1	6.16%
			b1	6.30%		Ba2	6.22%
			b2	6.31%		Ba3	6.28%
			b3	6.32%		B1	6.33%
			caa1	6.34%		B2	6.39%
			caa3	6.35%		B3	6.45%
						NR	6.50%

¹The Rate of Return on Common Equity was developed by staff based on the relative risk of the utilities in conjunction with the results of the various financial models and pertinent information from various sources.

²Rates of Return on Preferred Stocks and Bonds were based on Moody's "Utility Preferred Stock Yields", December 2004, "Utility Bond Yields" as of January 2005. However, because Moody assigns a yield to the groups Aaa, Aa, A and Baa for bonds; and aa, a, and baa for preferred stocks, the staff interpolates the difference between these groups in order to achieve a further refinement of the ratings.

³For companies whose common equity are not rated (NR), staff judgment is used in assigning the rates of return because the circumstances or reasons for not rating the common equity are different for each company.

2005 Capitalization Rate Study
Natural Gas Distribution Companies
Capital Asset Pricing Model - Ex Ante

Component	Value Line Ratings			
	A	B++	B+	B
Expected Future Return, S&P 500	12.32%	12.32%	12.32%	12.32%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.88%	4.88%	4.88%	4.88%
Risk Premium	7.44%	7.44%	7.44%	7.44%
Beta ²	0.76	0.76	0.76	0.76
Adjusted Risk Premium	5.65%	5.65%	5.63%	5.63%
Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.88%	4.88%	4.88%	4.88%
Projected Return on Common Equity	10.53%	10.53%	10.51%	10.51%

¹ Wall Street Journal 12/31/04 data.

² The estimated betas are based on the natural gas distribution beta analysis.

**2005 Capitalization Rate Study
Natural Gas Distribution Companies
Capital Asset Pricing Model - Ex Post**

Component	Value Line Ratings			
	A	B++	B+	B
Common Stock Return (1926 - 2004) ¹	12.40%	12.40%	12.40%	12.40%
Less: Income-Long Term Government Bonds (1926-2004) ¹	5.20%	5.20%	5.20%	5.20%
Risk Premium	7.20%	7.20%	7.20%	7.20%
Beta ²	0.76	0.76	0.76	0.76
Adjusted Risk Premium	5.47%	5.47%	5.45%	5.45%
Risk Free Return 25 - 30 Year Treasury Bonds ³	4.88%	4.88%	4.88%	4.88%
Projected Return on Common Equity	10.35%	10.35%	10.33%	10.33%

¹ Ibbotson Associates Study.

² The estimated betas are based on the natural gas distribution beta analysis.

³ Wall Street Journal 12/31/04 data.

2005 Capitalization Rate Study
Natural Gas Distribution Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/04	Est. 2005 Earnings	2004 Earnings	2004 Dividends	Est. 2005 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DvYld+ DvGrth (h+i)	DvYld+ ErngsGr (h+j)
A	Nicor Inc	36.94	2.20	2.00	1.86	1.88	5.09%	2.50%	2.22%	5.96%	7.59%	7.31%
A	Peoples Energy	43.95	2.75	2.56	2.16	2.20	5.01%	1.50%	3.09%	6.26%	6.51%	8.09%
A	WGL Holdings	30.84	1.90	1.84	1.29	1.31	4.25%	1.00%	4.29%	6.16%	5.25%	8.54%
B++	AGL Resources	33.24	2.25	2.15	1.15	1.16	3.49%	1.00%	5.33%	6.77%	4.49%	8.82%
B++	Energen Corp.	58.95	4.15	3.45	0.76	0.79	1.34%	NMF	7.00%	7.04%	1.34%	8.34%
B++	Keyspan	43.34	2.35	2.40	1.79	1.83	4.22%	1.00%	5.28%	5.42%	4.22%	9.50%
B++	New Jersey Resources	43.34	2.70	2.55	1.32	1.36	3.14%	3.00%	6.50%	6.23%	6.14%	9.64%
B++	Northwest Natural Gas Co.	33.74	2.00	1.80	1.30	1.33	3.94%	2.50%	5.33%	5.93%	6.44%	9.28%
B++	Piedmont Natural Gas	23.24	1.30	1.23	0.86	0.89	3.83%	4.00%	5.83%	5.59%	7.83%	9.66%
B++	South Jersey Industries	52.56	3.10	2.95	1.64	1.70	3.23%	2.50%	5.50%	5.90%	5.73%	8.73%
	Mean						3.75%	2.11%	5.04%	6.13%	5.55%	8.79%
	Median						3.89%	2.50%	5.33%	6.06%	5.94%	8.78%
	Weighted Average										5.37%	8.72%

Source: Columns a, b, d, e, f and g were extracted from the December 17, 2004 Value Line.

Source: Column j represents the average estimated earnings growth extracted from Value Line, Zacks.com and Thomson FN First Call.com.

Source: Column c was extracted from Yahoo Finance and represents 12/31/04 closing stock prices.

2005 Capitalization Rate Study
Natural Gas Distribution Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/04	Est. 2005 Earnings	2004 Earnings	2004 Dividends	Est. 2005 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DvYld+ DvGrth (h+i)	DvYld+ ErngsGr (h+j)
B+	Atmos Energy Corp.	27.35	1.70	1.58	1.22	1.24	4.53%	2.50%	4.20%	6.22%	7.03%	8.73%
B+	Cascade Natural Gas	21.20	1.20	1.19	0.96	0.96	4.53%	0.50%	5.17%	5.66%	5.03%	9.69%
B+	Laclede Gas	31.15	1.90	1.82	1.36	1.36	4.37%	3.50%	4.50%	6.10%	7.87%	8.87%
B+	UGI Corporation	40.91	2.80	2.43	1.20	1.30	3.18%	11.00%	9.75%	6.84%	14.18%	12.93%
B	Southern Union Co.	23.98	1.40	1.35	0.00	0.00	0.00%	0.00%	12.58%	5.84%	0.00%	12.58%
B	Southwest Gas Co.	25.40	1.70	1.50	0.82	0.82	3.23%	1.50%	6.40%	6.69%	4.73%	9.63%
C++	Semco Energy	5.34	0.35	0.20	0.08	0.00	0.00%	0.00%	11.00%	6.55%	0.00%	11.00%
	Mean						2.83%	2.71%	7.66%	6.27%	5.55%	10.49%
	Median						3.23%	1.50%	6.40%	6.22%	5.03%	9.69%
	Weighted Average										6.83%	11.02%

Source: Columns a, b, d, e, f and g were extracted from the December 17, 2004 Value Line.

Source: Column j represents the average estimated earnings growth extracted from Value Line, Zacks.com and Thomson FN First Call.com.

Source: Column c was extracted from Yahoo Finance and represents 12/31/04 closing stock prices.

**2005 Capitalization Rate Study
Natural Gas Distribution Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Zacks	Thomson FN	Value Line	Average
A	Nicor	3.00%	2.15%	1.50%	2.22%
A	Peoples Energy	4.00%	4.26%	1.00%	3.09%
A	WGL Holdings	4.00%	3.88%	5.00%	4.29%
B++	AGL Resources	6.00%	5.00%	5.00%	5.33%
B++	Energen Corp.	7.00%	NA	NMF	7.00%
B++	Keyspan	5.00%	4.33%	6.50%	5.28%
B++	New Jersey Resources	6.00%	5.50%	8.00%	6.50%
B++	Northwest Natural Gas Co.	5.00%	5.50%	5.50%	5.33%
B++	Piedmont Natural Gas	5.00%	5.00%	7.50%	5.83%
B++	South Jersey Industries	5.00%	5.00%	6.50%	5.50%
B+	Atmos Energy Corp.	4.00%	3.60%	5.00%	4.20%
B+	Cascade Natural Gas	6.00%	4.50%	5.00%	5.17%
B+	Laclede Gas	4.00%	4.00%	5.50%	4.50%
B+	UGI Corporation	NA	7.50%	12.00%	9.75%
B	Southern Union Co.	7.00%	5.25%	25.50%	12.58%
B	Southwest Gas Co.	5.00%	3.70%	10.50%	6.40%
C++	Semco Energy	NA	4.00%	18.00%	11.00%
	Mean	5.07%	4.57%	8.00%	6.12%
	Median	5.00%	4.42%	6.00%	5.33%
	Weighted Average				6.57%

Source: Column 'a' based on the December 17, 2004 Value Line Financial Strength ratings.

2005 Capitalization Rate Study
Natural Gas Distribution Companies
Capital Structure

a	b	c	d	e	f	g	h	i	j	k	l
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/04	Mkt Value Equity (\$millions)	L.T. Debt (\$millions)	Pfd Stock (\$millions)	Common Equity (\$millions)	Total Capital (\$millions)	L.T. Debt %	Pfd Stock %	Common Equity %
A	Nicor Inc	44,084,022	36.94	1,628.46	495.10	1.80	1,628.46	2,125.36	23.29%	0.08%	76.62%
A	Peoples Energy	37,630,892	43.95	1,653.88	846.30	0.00	1,653.88	2,500.18	33.85%	0.00%	66.15%
A	WGL Holdings	48,647,665	30.84	1,500.29	590.20	28.20	1,500.29	2,118.69	27.86%	1.33%	70.81%
B++	AGL Resources	65,363,168	33.24	2,172.67	1,216.00	0.00	2,172.67	3,388.67	35.88%	0.00%	64.12%
B++	Energen Corp.	36,442,118	58.95	2,148.26	512.90	0.00	2,148.26	2,661.16	19.27%	0.00%	80.73%
B++	Keyspan	160,595,889	39.45	6,335.51	4,420.00	75.00	6,335.51	10,830.51	40.81%	0.69%	58.50%
B++	New Jersey Resources	27,832,819	43.34	1,206.27	315.90	0.00	1,206.27	1,522.17	20.75%	0.00%	79.25%
B++	Northwest Natural Gas Co.	27,422,949	33.74	925.25	484.90	0.00	925.25	1,410.15	34.39%	0.00%	65.61%
B++	Piedmont Natural Gas	76,657,012	23.24	1,781.51	660.00	0.00	1,781.51	2,441.51	27.03%	0.00%	72.97%
B++	South Jersey Industries	13,792,371	52.56	724.93	327.00	1.70	724.93	1,053.63	31.04%	0.16%	68.80%
	Mean								29.42%	0.23%	70.36%
	Median								29.45%	0.00%	69.81%
	Weighted Average								32.84%	0.36%	66.81%

Source: Columns a, b, c, f and g were extracted from the December 17, 2004 Value Line.

Source: Column d was extracted from Yahoo Finance and represents 12/31/04 closing stock prices.

2005 Capitalization Rate Study
Natural Gas Distribution Companies
Capital Structure

a	b	c	d	e	f	g	h	i	j	k	l
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/04	Mkt Value Equity (\$millions)	L.T. Debt (\$millions)	Pfd Stock (\$millions)	Common Equity (\$millions)	Total Capital (\$millions)	L.T. Debt %	Pfd Stock %	Common Equity %
B+	Atmos Energy Corp.	62,601,735	27.35	1,712.16	863.30	0.00	1,712.16	2,575.46	33.52%	0.00%	66.48%
B+	Cascade Natural	11,268,000	21.20	238.88	133.90	0.00	238.88	372.78	35.92%	0.00%	64.08%
B+	Laclede Gas	20,978,823	31.15	653.49	380.30	1.10	653.49	1,034.89	36.75%	0.11%	63.15%
B+	UGI Corporation	50,955,146	40.91	2,084.58	1,554.80	0.00	2,084.58	3,639.38	42.72%	0.00%	57.28%
B	Southern Union Co.	79,043,523	23.98	1,895.46	2,074.70	230.00	1,895.46	4,200.16	49.40%	5.48%	45.13%
B	Southwest Gas Co.	36,059,272	25.40	915.91	1,264.70	0.00	915.91	2,180.61	58.00%	0.00%	42.00%
C++	Semco Energy	28,364,114	5.34	151.46	498.90	50.00	151.46	700.36	71.23%	7.14%	21.63%
	Mean								46.79%	1.82%	51.39%
	Median								42.72%	0.00%	57.28%
	Weighted Average								46.05%	1.91%	52.04%

Source: Columns a, b, c, f and g were extracted from the December 17, 2004 Value Line.

Source: Column d was extracted from Yahoo Finance and represents 12/31/04 closing stock prices.

2005 Capitalization Rate Study
Natural Gas Distribution Companies
Beta Analysis

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zacks Beta	Standard & Poor's Beta	Average Beta	Debt Equity Ratio	Unlevered Beta ¹	WTG Avg Debt/Equity Ratio
A	Nicor Inc	1.05	0.41	0.40	0.62	0.30	0.89	0.06
A	Peoples Energy	0.80	-0.04	-0.04	0.24	0.51	0.61	0.12
A	WGL Holdings	0.75	0.22	0.18	0.38	0.39	0.61	0.08
B++	AGL Resources	0.80	0.30	0.29	0.46	0.56	0.60	0.18
B++	Energen Corp.	0.70	0.23	0.10	0.34	0.24	0.61	0.06
B++	Keyspan	0.80	0.45	0.36	0.54	0.69	0.57	0.70
B++	New Jersey Resources	0.75	0.10	0.08	0.31	0.26	0.65	0.04
B++	Northwest Natural Gas Co.	0.65	0.02	-0.08	0.20	0.52	0.49	0.07
B++	Piedmont Natural Gas	0.75	0.12	NA	0.44	0.37	0.61	0.08
B++	South Jersey Industries	0.55	0.15	0.13	0.28	0.45	0.43	0.04
	Mean	0.76	0.20	0.16	0.38	0.43	0.61	1.43
	Median	0.75	0.19	0.13	0.36		0.61	
	Weighted				0.44		0.60	

Relevered Beta based on 50% Debt Capital Structure and mean Unlevered Beta

0.97²

Relevered Beta based on 50% Debt Capital structure and a weighted average Unlevered Beta

0.97²

Formulas:

¹ Unlevered Beta = Value Line's Beta/[1+(1-t)(D/E)]

² Relivered Beta = [Unlevered Beta][1+(1-t)(D/E)]

Where: D/E is the debt to equity ratio

t is the tax rate (assumed to be 40%)

Source: Columns a, b, c were extracted from the December 17, 2004 Value Line.

Source: Column d was extracted from Zacks.com.

Source: Column e was extracted from Standard and Poor's Stock Reports.

Source: Column g was extracted from capital structure worksheet included in the 2005 Capitalization Rate Study.

**2005 Capitalization Rate Study
Natural Gas Distribution Companies
Beta Analysis**

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zacks Beta	Standard & Poor's Beta	Average Beta	Debt Equity Ratio	Unlevered Beta ¹	WTG Avg Debt/Equity Ratio
B+	Atmos Energy Corp.	0.70	0.05	-0.04	0.24	0.50	0.54	0.09
B+	Cascade Natural Gas	0.75	0.15	NA	0.45	0.56	0.56	0.01
B+	Laclede Gas	0.70	0.13	0.08	0.30	0.58	0.52	0.04
B+	UGI Corporation	0.75	0.26	0.22	0.41	0.75	0.52	0.18
B	Southern Union Co.	0.95	0.63	0.59	0.72	0.98	0.60	0.28
B	Southwest Gas Co.	0.80	0.29	0.19	0.43	1.38	0.44	0.20
C++	Semco Energy	0.65	0.66	NA	0.66	2.48	0.26	0.12
Mean		0.76	0.31	0.21	0.46	1.03	0.49	0.93
Median		0.75	0.26	0.19	0.66		0.52	
Weighted					0.48		0.52	
Relevered Beta based on 50% Debt Capital Structure and mean Unlevered Beta						0.78	²	
Relevered Beta based on 50% Debt Capital structure and a weighted average Unlevered Beta						0.83	²	

Formulas:

¹ Unlevered Beta = Value Line's Beta/[1+(1-t)(D/E)]

² Relevered Beta = [Unlevered Beta][1+(1-t)(D/E)]

Where: D/E is the debt to equity ratio

t is the tax rate (assumed to be 40%)

Source: Columns a, b, c were extracted from the December 17, 2004 Value Line.

Source: Column d was extracted from Zacks.com.

Source: Column e was extracted from Standard and Poor's Stock Reports.

Source: Column g was extracted from capital structure worksheet included in the 2005 Capitalization Rate Study.

**2005 Capitalization Rate Study
Water Companies
Flotation Cost Adjustment**

Equity				Debt			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
A, B++, B+	10.11%	4.50%	10.58%	A2	5.88%	1.70%	5.98%

Formula - Cost of Capital Adjusted for Flotation Costs:

$$\frac{k_u}{1 - f}$$

Where k_u = The cost of capital unadjusted for flotation costs.

f = Flotation cost as a percentage of the value of securities issued.

**2005 Capitalization Rate Study
Water Companies
Summary of Rates of Return**

Common Equity		Preferred Stock			Bonds		
Value Line Rating	Rate of Return ¹	Moody's P/S Yields	Moody Rating	Rate of Return ²	Moody's Bond Yields	Moody Rating	Rate of Return ²
A, B++, B+	10.11%	aa=NA	aa1	6.17%	Aaa=NA	Aaa2	5.60%
			aa2	6.18%		Aaa3	5.65%
			aa3	6.18%		Aa1	5.70%
		a=6.19%	a1	6.18%	Aa=5.75%	Aa2	5.75%
			a2	6.19%		Aa3	5.79%
			a3	6.20%		A1	5.84%
		baa=6.23%	baa1	6.22%	A=5.88%	A2	5.88%
			baa2	6.23%		A3	5.94%
			baa3	6.24%		Baa1	5.99%
			ba1	6.26%	Baa=6.05%	Baa2	6.05%
			ba2	6.27%		Baa3	6.11%
			ba3	6.28%		Ba1	6.16%
			b1	6.30%		Ba2	6.22%
			b2	6.31%		Ba3	6.28%
			b3	6.32%		B1	6.33%
			caa1	6.34%		B2	6.39%
			caa3	6.35%		B3	6.45%
						NR	7.86%

¹The Discounted Cash Flow (DCF) model was relied upon to establish the return on equity (ROE) for water companies.

²Rates of Return on Preferred Stocks and Bonds were based on Moody's "Utility Preferred Stock Yields", December 2004, and "Utility Bond Yields" as of January 2005 report. However, because Moody assigns a yield to the groups Aaa, Aa, A and Baa for bonds; and aa, a, and baa for preferred stocks, the staff interpolates the difference between these groups in order to achieve a further refinement of the ratings.

Note: Southern California Water Company (SCWC) is the principal subsidiary of American States Water Co. As a stand alone company, SCWC is not rated by Value Line. Because American States Water Co. is part of the pool in determining the A, B++, B+ rate of return, it is staff's judgement that SCWC, as the only NR company, should receive a A, B++, B+ rate of return.

2005 Capitalization Rate Study
Water Companies
Capital Asset Pricing Model - Ex Ante

Component	Value Line Ratings
	A, B++, B+
Expected Future Return, S&P 500	12.32%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.88%
Risk Premium	7.44%
Beta ²	0.87
Adjusted Risk Premium	6.47%
Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.88%
Projected Return on Common Equity	11.35%

¹ Wall Street Journal 12/31/04 data.

² The estimated beta is based on staff's beta analysis.

**2005 Capitalization Rate Study
Water Companies
Capital Asset Pricing Model - Ex Post**

Component	Value Line Ratings
	A, B++, B+
Common Stock Return (1926 - 2004) ¹	12.40%
Less: Income-Long Term Government Bonds (1926-2004) ¹	5.20%
Risk Premium	7.20%
Beta ²	0.87
Adjusted Risk Premium	6.26%
Risk Free Return 25 - 30 Year Treasury Bonds ³	4.88%
Projected Return on Common Equity	11.14%

¹ Ibbotson Associates Study.

² The estimated beta is based on staff's beta analysis.

³ Wall Street Journal 12/31/04 data.

2005 Capitalization Rate Study
Water Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/04	Est. 2005 Earnings	2004 Earnings	2004 Dividends	Est. 2005 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DvYld+ DvGrth (h+i)	DvYld+ ErngsGr (h+j)
B++	CA Water Service Group	37.65	1.75	1.70	1.13	1.13	3.00%	1.00%	7.33%	4.65%	4.00%	10.33%
B+	American States Water	26.00	1.50	1.20	0.88	0.90	3.46%	1.50%	6.25%	5.77%	4.96%	9.71%
	Mean						3.23%	1.25%	6.79%	5.21%	4.48%	10.02%
	Median						3.23%	1.25%	6.79%	5.21%	4.48%	10.02%
	Weighted Average										4.35%	10.11%

Source: Columns a, b, d, e, f, g and i were extracted from the October 29,2004 Value Line.

Source: Column j represents the average estimated earnings growth extracted from Value Line, Zacks.com and Thomson FN First Call.com.

Source: Column c was extracted from Yahoo Finance and represents 12/31/04 closing stock prices.

**2005 Capitalization Rate Study
Water Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
B++	CA Water Service Group	10.00%	6.00%	6.00%	7.33%
B+	American States Water	9.50%	NA	3.00%	6.25%
	Mean	9.75%	6.00%	4.50%	6.79%
	Median	9.75%	6.00%	4.50%	6.79%
	Weighted Average				6.91%

Source:

Columns a, b and c were extracted from the October 29, 2004 Value Line.

Column d was extracted from the Zacks Investment Research, Inc.

Column e was extracted from the Thomson Financial Network.

**2005 Capitalization Rate Study
Water Companies
Capital Structure**

a	b	c	d	e	f	g	h	i	j	k	l
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/04	Mkt Value Equity (\$millions)	L.T. Debt (\$millions)	Pfd Stock (\$millions)	Common Equity (\$millions)	Total Capital (\$millions)	L.T. Debt %	Pfd Stock %	Common Equity %
B++	CA Water Service Group	18,345,496	37.65	690.71	272.00	3.50	690.71	966.21	28.15%	0.36%	71.49%
B+	American States Water	15,268,587	26.00	396.98	229.50	0.00	396.98	626.48	36.63%	0.00%	63.37%
	Mean								32.39%	0.18%	67.43%
	Median								32.39%	0.18%	67.43%
	Weighted Average								31.49%	0.22%	68.29%

Source: Columns a, b, c, f and g were extracted from Value Line.

Source: Column d was extracted from Yahoo Finance and represents 12/31/04 closing stock prices.

**2005 Capitalization Rate Study
Water Companies
Beta Analysis**

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zacks Beta	Standard & Poor's Beta	Average Beta	Debt Equity Ratio	Unlevered Beta ¹	WTG Avg Debt/Equity Ratio
B++	CA Water Service Group	0.70	0.04	-	0.37	0.39	0.57	0.24
B+	American States Water	0.70	0.00	-	0.35	0.58	0.52	0.23
	Mean	0.70	0.02		0.36	0.48	0.54	0.47
	Median	0.70	0.02		0.36		0.54	
	Weighted				0.47		0.55	
	Relevered Beta based on 50% Debt Capital Structure and median unlevered Beta.					0.87 ²		
	Relevered Beta based on 50% Debt Capital structure and a weighted average Beta.					0.88 ²		

Formulas:

¹ Unlevered Beta = Value Line Beta/[1+(1-t)(D/E)]

² Relevered Beta = [Unlevered Beta][1+(1-t)(D/E)]

Where: D/E is the debt to equity ratio

t is the tax rate (assumed to be 40%.)

**California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Natural Gas Transmission Companies**

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Common Equity	Bond	Common Equity	Debt	Common Equity	Debt	
153	Transwestern Pipeline Company	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%
180	North Baja Pipeline, LLC	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%
187	Mojave Pipeline Company	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%
188	Kern River Gas Transmission Company	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%
189	Standard Pacific Gas Line, Inc.	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%
190	Tuscarora Gas Transmission Company	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%
196	Questar Southern Trails Pipeline Company	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%
197	El Paso Natural Gas Company	Not Rated	Not Rated	70%	30%	11.78%	6.15%	10.09%

2005
Capitalization Rate Study
Natural Gas Transmission Companies
Industry Notes

- Staff relied upon the results of the following models in forecasting equity rates:
 1. Discounted Cash Flow analysis.
 2. Capital Asset Pricing Model - Consideration was given to both the ex post and ex ante risk premiums.

2005 Capitalization Rate Study
Natural Gas Transmission Companies
Flotation Cost Adjustment

Equity				Bond			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
Not Rated	11.25%	4.50%	11.78%	Not Rated	6.05%	1.70%	6.15%

Formula - Cost of Capital Adjusted for Flotation Costs

$$\frac{k_u}{1 - f}$$

Where k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

2005 Capitalization Rate Study
Natural Gas Transmission Companies
Summary of Return on Common Equity

Description	Value Line B++, B+, B, C+		
	2005	2004	Change
E/P Ratio - Mean	7.17%	6.99%	0.18%
E/P Ratio - Median	6.49%	6.89%	-0.39%
Dividends Yield + Dividends Growth - Mean	9.19%	8.43%	0.76%
Dividends Yield + Dividends Growth - Median	7.18%	6.38%	0.80%
Dividends Yield + Earnings Growth - Mean	9.68%	10.69%	-1.01%
Dividends Yield + Earnings Growth - Median	9.17%	10.15%	-0.98%
Capital Asset Pricing Model (CAPM) - Ex Ante	11.20%	10.77%	0.43%
Capital Asset Pricing Model (CAPM) - Ex Post	11.00%	11.14%	-0.14%
Valuation Division Recommendation:	11.25%	11.50%	-0.25%

Interstate gas transmission companies are regulated by the Federal Energy Regulatory Commission (FERC). California is the second largest natural gas market in the United States.

The Discounted Cash Flow (DCF) model is computed using data from a sample of gas transmission companies with similar risk and operations. In addition to the financial risk, staff also considered business risk. The decrease in the DCF model this year was primarily caused by a decrease in the growth rate.

The information considered by staff includes the results of DCF analysis (Dividends Yield + Dividends Growth and Dividends Yield + Earnings Growth) and the results of the Capital Asset Pricing Model (CAPM) analysis.

2005 Capitalization Rate Study
Natural Gas Transmission Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/04	2005 Est. Earnings	2004 Earnings	2004 Dividends	2005 Est. Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	Div Yld+ Div Grwh (h+i)	Div Yld+ Engs Grwh (h+j)
B+	Cabot Oil & Gas 'A'	44.25	2.65	2.55	0.16	0.16	0.36%	0.00%	7.17%	5.99%	0.36%	7.53%
B+	Devon Energy	38.92	4.30	4.20	0.20	0.20	0.51%	12.00%	7.54%	11.05%	12.51%	8.06%
B++	EOG Resources	71.36	5.20	4.55	0.23	0.24	0.34%	6.50%	9.05%	7.29%	6.84%	9.38%
B+	Equitable Resources	60.66	3.45	3.10	1.44	1.65	2.72%	19.50%	9.96%	5.69%	22.22%	12.68%
B++	National Fuel Gas	28.34	1.90	1.97	1.10	1.14	4.02%	3.50%	4.93%	6.70%	7.52%	8.96%
B++	Questar Corp.	50.96	3.20	2.60	0.85	0.87	1.71%	4.00%	9.78%	6.28%	5.71%	11.49%
	Mean						1.61%	7.58%	8.07%	7.17%	9.19%	9.68%
	Median						1.11%	5.25%	8.30%	6.49%	7.18%	9.17%
	Weighted Average										10.81%	9.10%

Source:

Columns a, b, d - g, i, were extracted from the December 17, 2004 Value Line.

Column c was extracted from the Yahoo Market Guide.

Column j is an average of Value Line, Zacks, and Thomson.

**2005 Capitalization Rate Study
Natural Gas Transmission Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
B+	Cabot Oil & Gas 'A'	8.50%	6.50%	6.50%	7.17%
B+	Devon Energy	11.00%	6.00%	5.63%	7.54%
B++	EOG Resources	6.00%	10.00%	11.14%	9.05%
B+	Equitable Resources	10.50%	9.90%	9.49%	9.96%
B++	National Fuel Gas	5.50%	4.80%	4.50%	4.93%
B++	Questar Corp.	12.00%	8.70%	8.64%	9.78%
	Mean	8.92%	7.65%	7.65%	8.07%
	Median	9.50%	7.60%	7.57%	8.30%
	Weighted Average				8.07%

2005 Capitalization Rate Study
Natural Gas Transmission Company
Capital Asset Pricing Model - Ex Ante

Component	Industry Computation
Expected Future Return, S&P 500 ¹	12.32%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ²	4.88%
Risk Premium	7.44%
Beta ³	0.85
Adjusted Risk Premium	6.32%
Risk Free Return 25 - 30 Year Treasury Bonds ²	4.88%
Projected Return on Common Equity	11.20%

¹ Dividend Yield for S&P 500@12/31/2004	1.72%
5 Year projected growth per First Call	10.60%
Expected future Return, S&P 500	12.32%

² Wall Street Journal 12/31/2004 data.

³ Value Line's beta was used because Zack's and Standard & Poor's betas appear inconsistent and would not be meaningful.

2005 Capitalization Rate Study
Natural Gas Transmission Companies
Capital Asset Pricing Model - Ex Post

Component	Industry Computation
Common Stock Return (1926 - 2004) ¹	12.40%
Less: Long Term Government Bonds ¹	5.20%
Risk Premium	7.20%
Beta ²	0.85
Adjusted Risk Premium	6.12%
Risk Free Return 25 - 30 Year Treasury Bonds ³	4.88%
Projected Return on Common Equity	11.00%

¹ Ibbotson Associates Study.

² Value Line's average beta was used because Zack's and Standard & Poor's betas appear inconsistent and would not be meaningful.

³ Wall Street Journal 12/31/2004 data

2005 Capitalization Rate Study
Natural Gas Transmission Companies
Beta Analysis

a	b	c	d	e	f	g	h	i
Value Line		Value		Standard		Debt		WTG Avg
Rating	Company Name	Line's	Zack's	& Poor's	Average	Equity	Unlevered	Debt/Equity
		Beta	Beta	Beta	Beta	Ratio	Beta ¹	Ratio
B+	Cabot Oil & Gas 'A'	0.90	0.53	0.54	0.66	0.18	0.59	0.006
B+	Devon Energy	0.85	0.55	0.53	0.64	0.39	0.52	0.204
B++	EOG Resources	0.90	0.71	0.72	0.78	0.14	0.72	0.027
B+	Equitable Resources	0.75	0.25	0.25	0.42	0.17	0.38	0.014
B++	National Fuel Gas	0.80	0.27	0.26	0.44	0.48	0.34	0.033
B++	Questar Corp.	0.85	0.68	0.68	0.74	0.22	0.65	0.022
	Mean	0.84	0.50	0.50	0.61	0.26	0.53	
	Median	0.85	0.54	0.54	0.65		0.56	
	Weighted				0.65		0.55	0.31
	Relevered Beta based on 30% Debt Capital Structure							0.67 ²
	Relevered Beta based on 30% Debt Capital Structure and a weighted average Beta							0.66 ²

Formulas:

¹ Unlevered Beta = Beta/[1+(1-t)(D/E)]

² Relevered Beta = Unlevered Beta X [1+(1-t)(D/E)]

Where: D/E is the debt to equity ratio

t is the tax rate (assumed to be 40%)

**2005 Capitalization Rate Study
Natural Gas Transmission Companies
Capital Structure**

a	b	c	d	e	f	g	h	i	j	k	l	m	n
Value Line	Moody's Bond	Moody's P/S		Common Stock	Common Stock Price	Market Value Com. Stock	L.T. Debt	Pfd Stock	Common Stock	Total Cap. (\$mill)	L.T. Debt	Pfd Stock	Common Stock
Rating	Rating	Rating	Company Name	Outstanding	12/31/04	(e * f)	(\$millions)	(\$millions)	(\$millions)	(h + i + j)	%	%	%
B+	NR	NR	Cabot Oil & Gas 'A'	33,086,342	44.25	1,464.1	270.0	0.0	1,464.1	1,734.1	16%	0%	84%
B+	NR	NR	Devon Energy	486,022,000	38.92	18,916.0	7,270.0	150.0	18,916.0	26,336.0	28%	1%	72%
B++	NR	NR	EOG Resources	118,575,129	71.36	8,461.5	1,063.0	148.7	8,461.5	9,673.2	11%	2%	88%
B+	NR	NR	Equitable Resources	61,447,967	60.66	3,727.4	617.9	0.0	3,727.4	4,345.3	14%	0%	86%
B++	NR	NR	National Fuel Gas	82,990,340	28.34	2,351.9	1,133.3	0.0	2,351.9	3,485.2	33%	0%	68%
B++	NR	NR	Questar Corp.	83,288,173	50.96	4,244.4	933.2	0.0	4,244.4	5,177.6	18%	0%	82%
			Mean								19.9%	0.4%	79.8%
			Median								16.8%	0.0%	83.2%
			Weighted Average								22.4%	0.6%	77.2%

NR - Not Rated

Source:

Columns a, d, e, h and i were extracted from the December 17, 2004 Value Line.

Columns b and c were extracted from the 2004 Moody's Public Utility and Industrial Manuals.

Column f was extracted from the Yahoo Market Guide.

Notes:

It is staff's opinion that the appropriate capital structure would contain more debt financing than is reflected in the above sample. The common stock prices at the lien date are reflective of the increase in the price of natural gas over last year. In determining the capital structure for a company operating pipeline assets, the increase in the equity value due to the increase in natural gas inventories or reserves should not be reflected in the capital structure chosen for the pipeline assets.

2005 Capitalization Rate Study
Natural Gas Transmission Companies
Bonds - Rate of Return

Utility Bond Yield	Bond Rating				
	Aaa	Aa	A	Baa	Avg Utility
As of December 31, 2004	N/A	5.75%	5.88%	6.05%	5.89%

Staff applied a bond rating of Baa2 for the Natural Gas Transmission Companies. The yield rate for utility bonds rated Baa2 was 6.05%.

Source: Moody's Public Utility, Credit Market Trends Service.

California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Local Exchange Companies

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Financial	Bond	Common Equity	Debt	Common Equity	Debt	
201	Verizon California Inc.	A+	A1	80%	20%	11.78%	5.94%	10.61%
279	Pacific Bell Telephone Company	A+	A2	80%	20%	11.78%	5.98%	10.62%
284	CTC of California	Not Rated	Not Rated	70%	30%	13.09%	6.15%	11.01%
294	SureWest Telephone	Not Rated	Not Rated	70%	30%	13.09%	6.15%	11.01%
	Other Local Exchange Companies	Not Rated	Not Rated	70%	30%	14.40%	6.92%	12.16%

**2005 Capitalization Rate Study
Local Exchange Companies
Industry Summary**

- Staff relied on the following models in forecasting equity rates:
 1. Discounted Cash Flow (DCF) – Staff considered the weighted average dividend yield plus earnings growth.
 2. Capital Asset Pricing Model (CAPM) – Staff also considered both the ex ante and ex post premiums.
- Staff's recommended rate of return for common equity for lien date 2005 was based on the relative risk of the companies included in the sample in conjunction with the results of the various financial models. The data and/or information considered by staff include the results of the DCF analysis (Dividend Yield plus Dividend Growth and Dividend Yield plus Earnings Growth) and the CAPM analysis, and the spreads between utility bond yields. Staff placed more reliance on the results of the CAPM analysis.
- Staff's recommended capital structure for lien date 2005 was based on the results of the 2005 capitalization rate study for local exchange companies using the same sample of companies that were included in the calculation of the DCF model.
- Sprint Corporation is included in the sample in the 2005 capitalization rate study for local exchange, interexchange, and wireless companies. Sprint generates significant revenues from local, long distance, and wireless operations.
- Verizon California, Inc. is a subsidiary of Verizon Communications.
- The Pacific Bell Telephone Company is a subsidiary of SBC Communications Inc.
- Citizens Telecommunications Company (CTC) of California is a subsidiary of Citizens Communications.
- SureWest Telephone (formerly known as Roseville Telephone Co.) is a subsidiary of SureWest Communications.

**2005 Capitalization Rate Study
Local Exchange Companies
Flotation Cost Adjustment**

Equity				Debt			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
A+	11.25%	4.50%	11.78%	Aa2	5.75%	1.70%	5.85%
NR-1	12.50%	4.50%	13.09%	Aa3	5.79%	1.70%	5.89%
NR-2	13.75%	4.50%	14.40%	A1	5.84%	1.70%	5.94%
				A2	5.88%	1.70%	5.98%
				A3	5.94%	1.70%	6.04%
				Baa1	5.99%	1.70%	6.10%
				Baa2	6.05%	1.70%	6.15%
				Not Rated	6.81%	1.70%	6.92%

Formula: Cost of Capital Adjusted for Flotation Costs

$$\frac{k_u}{1 - f}$$

Where k_u = Cost of capital unadjusted for flotation costs
 f = Flotation cost as a percentage of the value of securities issued

NR-1 : Although no ratings were available for state-assessed companies, a Value Line rating of B was applied to the equity and a Moody bond rating of Baa2 was applied to represent the debt for companies with a value between \$50 million - \$300 million.

NR-2 : Although no ratings were available for state-assessed companies, the Value Line rating of lower than B was applied to the equity and staff estimate was used for the debt for companies with a value less than \$50 Million.

2005 Capitalization Rate Study
Local Exchange Companies
Return On Common Equity Summary

Description	A+, A			B++, B+, B		
	2005	2004	Change	2005	2004	Change
E/P Ratio - Mean	6.11%	6.80%	-0.68%	4.69%	6.15%	-1.45%
E/P Ratio - Median	6.17%	6.91%	-0.74%	4.45%	5.84%	-1.40%
Dividend Yield + Dividend Growth - Mean	8.01%	7.33%	0.68%	7.43%	5.58%	1.85%
Dividend Yield + Dividend Growth - Median	7.57%	7.09%	0.48%	7.04%	4.80%	2.24%
Weighted Average (Dividend Yield + Dividend Growth - Mean)	7.31%	7.06%	0.24%	8.31%	4.91%	3.39%
Dividend Yield + Earnings Growth - Mean	9.57%	6.89%	2.68%	12.56%	9.01%	3.56%
Dividend Yield + Earnings Growth - Median	9.58%	6.60%	2.99%	11.63%	9.19%	2.45%
Weighted Average (Dividend Yield + Earnings Growth - Mean)	9.40%	5.92%	3.48%	14.45%	8.00%	6.45%

	A+, A	B++, B+, B	Lower than B
CAPM Analysis - Ex Ante:			
2005 Lien Date	11.70%	13.14%	NMF
2004 Lien Date	11.39%	12.34%	NMF
CAPM Analysis - Ex Post:			
2005 Lien Date	11.48%	12.87%	NMF
2004 Lien Date	11.79%	12.81%	NMF
Discounted Cash Flow			
2005 Lien Date	9.40%	14.45%	NMF
2004 Lien Date	5.92%	8.00%	NMF
2005 Recommended Rate	11.25%	12.50%	13.75%
2004 SBE Rate	10.75%	12.00%	13.25%

2005 Capitalization Rate Study
Local Exchange Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/04	Est. 2005 Earnings	2004 Earnings	2004 Dividends	Est. 2005 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DivYld+ DivGrw (h+i)	DivYld+ ErngsGrw (h+j)
A+	BellSouth Corp.	27.79	1.80	1.85	1.06	1.14	4.10%	8.50%	5.94%	6.48%	12.60%	10.05%
A+	SBC Communications Inc.	25.77	1.40	1.42	1.25	1.30	5.04%	3.50%	6.07%	5.43%	8.54%	11.11%
A+	Verizon Communications	40.51	2.70	2.51	1.54	1.54	3.80%	0.50%	4.20%	6.67%	4.30%	8.00%
A	ALLTEL Corp.	58.76	3.45	3.30	1.49	1.53	2.60%	4.00%	6.52%	5.87%	6.60%	9.12%
	Mean						3.89%	4.13%	5.68%	6.11%	8.01%	9.57%
	Median						3.95%	3.75%	6.00%	6.17%	7.57%	9.58%
	Weighted Average										7.31%	9.40%
B++	CenturyTel Inc.	35.47	2.35	2.37	0.23	0.23	0.65%	15.00%	5.07%	6.63%	15.65%	5.72%
B	Citizens Communications	13.79	0.45	0.50	2.50	1.00	0.00%	NMF	7.40%	3.26%	0.00%	7.40%
B	Sprint Corporation	24.85	1.40	0.90	0.50	0.54	2.17%	7.00%	13.70%	5.63%	9.17%	15.87%
B	Telephone & Data Systems	76.95	2.50	1.72	0.66	0.70	0.91%	4.00%	20.35%	3.25%	4.91%	21.26%
	Mean						0.93%	8.67%	11.63%	4.69%	7.43%	12.56%
	Median						0.78%	7.00%	10.55%	4.45%	7.04%	11.63%
	Weighted Average										8.31%	14.45%

Source: Columns a, d-g, i, were extracted from the December 31, 2004 Value Line.

Column c was extracted from the January 3, 2005 Wall Street Journal.

Column j was extracted from the long term earnings growth page of this 2005 capitalization rate study.

**2005 Capitalization Rate Study
Local Exchange Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
A+	BellSouth Corp.	7.50%	5.30%	5.03%	5.94%
A+	SBC Communications Inc.	NIL	4.80%	7.33%	6.07%
A+	Verizon Communications	1.50%	5.20%	5.89%	4.20%
A	ALLTEL Corp.	6.50%	6.10%	6.96%	6.52%
	Mean	5.17%	5.35%	6.30%	5.68%
	Median	6.50%	5.25%	6.43%	6.00%
	Weighted Average				5.25%
B++	CenturyTel Inc.	7.50%	4.10%	3.62%	5.07%
B	Citizens Communications	NMF	11.30%	3.50%	7.40%
B	Sprint Corporation	NMF	11.90%	15.49%	13.70%
B	Telephone & Data Systems	7.00%	25.60%	28.45%	20.35%
	Mean	7.25%	13.23%	12.77%	11.63%
	Median	7.25%	11.60%	9.56%	10.55%
	Weighted Average				12.81%

Source: Columns a, c were extracted from the December 31, 2004 Value Line.
Column d was extracted from Zacks.com.
Column e was extracted from ThomsonFN.com.

2005 Capitalization Rate Study
Local Exchange Companies
Capital Structure

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/04	Market Value Common	Long Term Debt (\$Million)	Preferred Stock (\$Million)	Common Stock (\$Million)	Total Capital (\$Million)	L.T. Debt %	Preferred Stock %	Common Stock %	Value Line Page
A+	BellSouth Corp.	1,831,761,229	27.79	50,904.64	13,142.00	0.00	50,904.64	64,046.64	20.52%	0.00%	79.48%	724
A+	SBC Communications Inc.	3,315,400,000	25.77	85,437.86	16,539.00	0.00	85,437.86	101,976.86	16.22%	0.00%	83.78%	735
A+	Verizon Communications	2,768,958,346	40.51	112,170.50	37,252.00	0.00	112,170.50	149,422.50	24.93%	0.00%	75.07%	739
A	ALLTEL Corp.	303,757,567	58.76	17,848.79	5,380.00	0.34	17,848.79	23,229.14	23.16%	0.00%	76.84%	722
	Mean			66,590.45				338,675.14	21.21%	0.00%	78.79%	
	Median			68,171.25					21.84%	0.00%	78.16%	
	Weighted Average								21.35%	0.00%	78.65%	
B++	CenturyTel Inc.	134,571,043	35.47	4,773.23	2,884.00	8.00	4,773.23	7,665.23	37.62%	0.10%	62.27%	725
B	Citizens Communications	335,451,474	13.79	4,625.88	4,324.80	0.00	4,625.88	8,950.68	48.32%	0.00%	51.68%	727
B	Sprint Corporation	1,470,967,716	24.85	36,553.55	16,038.00	247.00	36,553.55	52,838.55	30.35%	0.47%	69.18%	736
B	Telephone & Data Sys.	57,399,453	76.95	4,416.89	3,682.50	3.90	4,416.89	8,103.29	45.44%	0.05%	54.51%	737
	Mean			12,592.39				77,557.75	40.43%	0.15%	59.41%	
	Median			4,699.56					41.53%	0.08%	58.39%	
	Weighted Average								34.72%	0.33%	64.94%	

Source: Column a, c, f, g, were extracted from the December 31, 2004 Value Line. Capital structure as of September 30, 2004.
Column d was extracted from the January 3, 2005 Wall Street Journal.

**2005 Capitalization Rate Study
Local Exchange Companies
Capital Asset Pricing Model - Ex Ante**

Component	Value Line Rating	
	A+, A	B++, B+, B
Expected Future Return, S&P 500 ¹	12.32%	12.32%
Less: Risk Free Return, Long Term Government Bonds ²	4.88%	4.88%
Ex Ante Risk Premium	7.44%	7.44%
Relevered Beta ³	0.92	1.11
Adjusted Risk Premium	6.82%	8.26%
Risk Free Return, Long Term Government Bonds ²	4.88%	4.88%
Projected Equity Yield	11.70%	13.14%

¹ Dividend Yield for S&P 500 Companies @ December 31, 2004 - Standardandpoors.com
Next 5 Years Estimated Earnings Growth per First Call - Yahoo Finance, January 3, 2005
Expected Future Return for S&P 500 Companies

1.72%
10.60%
12.32%

² Wall Street Journal, January 3, 2005.

³ The estimated betas are derived from a representative sample of local exchange companies with similar ratings.

2005 Capitalization Rate Study
Local Exchange Companies
Capital Asset Pricing Model - Ex Post

Component	Value Line Rating	
	A+, A	B++, B+, B
Common Stock Return (1926-2004) ¹	12.40%	12.40%
Less: Income - Long Term Government Bonds (1926-2004) ¹	5.20%	5.20%
Ex Post Risk Premium	7.20%	7.20%
Relevered Beta ²	0.92	1.11
Adjusted Risk Premium	6.60%	7.99%
Risk Free Return, Long Term Government Bonds ³	4.88%	4.88%
Projected Equity Yield	11.48%	12.87%

¹ Ibbotson Associates Study.

² The estimated betas are derived from a representative sample of local exchange companies with similar ratings.

³ Wall Street Journal, January 3, 2005.

2005 Capitalization Rate Study
Local Exchange Companies
Beta Analysis

a	b	c	d	e	f	g	h	i
Value Line		Value Line	Zacks	Standard & Poor's	Average	Debt Equity	Unlevered	WTG Avg
Rating	Company Name	Beta	Beta	Beta	Beta	Ratio	Beta ¹	Debt/Equity Ratio
A+	BellSouth Corp.	1.00	1.06	1.05	1.04	0.26	0.90	0.05
A+	SBC Communications Inc.	1.05	0.78	0.72	0.85	0.19	0.76	0.06
A+	Verizon Communications	1.00	0.93	0.90	0.94	0.33	0.79	0.15
A	ALLTEL Corp.	1.00	0.83	0.83	0.89	0.30	0.75	0.02
	Mean	1.01	0.90	0.88	0.93	0.27	0.80	
	Median	1.00	0.88	0.87	0.92		0.77	
	Weighted				0.93		0.80	0.27
B++	CenturyTel Inc.	1.10	0.92	0.90	0.97	0.61	0.71	0.06
B	Citizens Communications	1.00	1.25	N/A	1.13	0.93	0.72	0.11
B	Sprint Corporation	1.05	1.31	1.27	1.21	0.45	0.95	0.30
B	Telephone & Data Systems	1.05	1.20	1.13	1.13	0.83	0.75	0.09
	Mean	1.05	1.17	1.10	1.11	0.71	0.79	
	Median	1.05	1.23	1.13	1.13		0.74	
	Weighted				1.17		0.88	0.56

For A+, A Companies:

Relevered beta based on 20% debt capital structure	0.92 ²	-----
Relevered beta based on 20% debt capital structure and a weighted average beta	0.92 ²	-----

For B++,B+,B Companies:

Relevered beta based on 30% debt capital structure	-----	0.99 ²
Relevered beta based on 30% debt capital structure and a weighted average beta	-----	1.11 ²

Formulas:

¹ Unlevered beta = beta/[1+(1-t)(d/e)]

² Relevered beta = Unlevered beta x [1+(1-t)(d/e)]

Where: d/e is the debt to equity ratio
t is the tax rate (assumed to be 40%)

Source: Columns a, c were extracted from the December 31, 2004 Value Line.
Column d was extracted from Zacks.com.

Column e was extracted from the Standard and Poor's Stock Reports, October 2004.

**California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Electric Generation**

Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
	Financial	Bond	Common Equity	Debt	Common Equity	Debt	
Recently Constructed Facilities¹	C+	NR	60%	40%	14.46%	7.12%	11.52%
Composite Facilities²	C+	NR	60%	40%	15.63%	7.12%	12.23%
Older Facilities³	C+	NR	60%	40%	16.41%	7.63%	12.90%

¹ Recently Constructed Facilities - Facilities constructed after September 1996 incorporating modern electric generation technologies at the time they were built.

² Composite Facilities - Facilities that were sold off by vertically integrated electric utilities and for which replacements of some obsolete generation units with modern electric generation technologies have been made.

³ Older Facilities - Facilities that were sold off by vertically integrated electric utilities for which no replacements, other than for routine maintenance, have been made.

**2005 Capitalization Rate Study
Electric Generation Facilities
Industry Notes**

- The available information with respect to the capital structure, rates of return, and statistics based on historical operating results and market performance is not reliable due to the small number of pure play electric generation companies and the distressed nature of the surviving companies despite some improvements over last year.
- Staff's recommended capital structure of 60% equity and 40% debt recognizes that a prospective purchaser of an electric generation plant would not be able to employ the high level of debt currently maintained by the companies in the sample. The capital structure selected provides sufficient coverage of interest and principal payments on the debt to support a debt rate less than the rate that the companies are currently paying.
- Staff added a risk premium of 100 basis points to the debt rate of older facilities and 50 basis points to the debt rate of recently constructed and composite facilities to recognize the market's perception of additional risk present in this industry.
- The relevered beta used by the staff in calculating the relative risk of electric generation facilities relative to the risk of the overall market reflects that a prospective purchaser using the recommended capital structure would be subject to less financial risk than companies in the sample.

**2005 Capitalization Rate Study
Electric Generation Facilities
Flotation Cost Adjustment**

Value Line Rating	Equity			Debt		
	Recommended Rate	Flotation Cost in %	Adjusted Rate	Recommended Rate	Flotation Cost in %	Adjusted Rate
Recently Constructed Facilities ¹	13.81%	4.50%	14.46%	7.00%	1.70%	7.12%
Composite Facilities ¹	14.92%	4.50%	15.63%	7.00%	1.70%	7.12%
Older Facilities ²	15.67%	4.50%	16.41%	7.50%	1.70%	7.63%

Formula - Cost of Capital Adjusted for Flotation Costs

$$\frac{k_u}{1 - f}$$

Where k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

¹ Caa1 bond rating with an additional risk premium of 50 basis points (0.5%).

² Caa1 bond rating with an additional risk premium of 100 basis points (1.0%).

**2005 Capitalization Rate Study
Electric Generation Facilities
Summary of Rates of Return**

Common Equity		Bonds		
Value Line Rating	Rate of Return ¹	Moody's Bond Yields	Moody Rating	Rate of Return ²
Recently Constructed Facilities	13.81%	Aaa=NA	Aaa2	5.60%
			Aaa3	5.65%
Composite Facilities	14.92%	Aa=5.75%	Aa1	5.70%
			Aa2	5.75%
Older Facilities	15.67%	A=5.88%	Aa3	5.79%
			A1	5.84%
			A2	5.88%
			A3	5.94%
			Baa1	5.99%
		Baa=6.05%	Baa2	6.05%
			Baa3	6.11%
			Ba1	6.16%
			Ba2	6.22%
			Ba3	6.28%
			B1	6.33%
			B2	6.39%
			B3	6.45%
			Caa1	6.50%

¹ The Rate of Return on Common Equity was developed by staff based on the relative risk of the utilities in conjunction with the results of the various financial models and pertinent information from various sources.

² Rates of Return on Bonds were based on Moody's "Utility Bond Yields" as of December 31, 2004. However, because Moody assigns a yield to the groups Aa, A and Baa for bonds, the staff interpolates the difference between these groups in order to achieve a further refinement of the ratings.

**2005 Capitalization Rate Study
Electric Generation Facilities
Capital Asset Pricing Model - Ex Ante**

Component	Types of Facilities		
	Recently Constructed	Composite	Older
Expected Future Return, S&P 500	12.32%	12.32%	12.32%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.88%	4.88%	4.88%
Risk Premium	7.44%	7.44%	7.44%
Beta ²	1.20	1.35	1.45
Adjusted Risk Premium	8.93%	10.04%	10.79%
Risk Free Return 25 - 30 Year Treasury Bonds ¹	4.88%	4.88%	4.88%
Projected Return on Common Equity	13.81%	14.92%	15.67%

¹ Wall Street Journal 12/31/04 data

² The betas are based on staff's judgement in conjunction with the results of the Beta Analysis. See explanation contained in the Industry Notes.

**2005 Capitalization Rate Study
Electric Generation Facilities
Capital Asset Pricing Model - Ex Post**

Component	Types of Facilities		
	Recently Constructed	Composite	Older
Common Stock Return (1926 - 2004) ¹	12.40%	12.40%	12.40%
Less: Long Term Government Bonds ¹	5.20%	5.20%	5.20%
Risk Premium	7.20%	7.20%	7.20%
Beta ²	1.20	1.35	1.45
Adjusted Risk Premium	8.64%	9.72%	10.44%
Risk Free Return 25 - 30 Year Treasury Bonds ³	4.88%	4.88%	4.88%
Projected Return on Common Equity	13.52%	14.60%	15.32%

¹ Ibbotson Associates Study

² The betas are based on staff's judgement in conjunction with the results of the Beta Analysis. See explanation contained in the Industry Notes.

³ Wall Street Journal 12/31/04 data

2005 Capitalization Rate Study
Electric Generation Facilities
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/04	Est. 2005 Earnings	2004 Earnings	2004 Dividends	Est. 2005 Dividends	Dividend Yield (g/c)	Est. Dividend Growth	Est. Earnings Growth	E/P Ratio (d/c)	DvYld+ DvGrth (h+i)	DvYld+ ErngsGr (h+j)
C+	AES Corp.	13.67	0.80	0.68	0.00	0.00	0.00%	0.00%	10.78%	5.85%	0.00%	10.78%
C+	Calpine Corp.	3.94	0.20	0.65	0.00	0.00	0.00%	0.00%	5.83%	5.08%	0.00%	5.83%
C+	Reliant Resources	13.65	0.35	0.25	0.00	0.00	0.00%	0.00%	6.75%	2.56%	0.00%	6.75%
	Mean						0.00%	0.00%	7.79%	4.50%	0.00%	7.79%
	Median						0.00%	0.00%	6.75%	5.08%	0.00%	6.75%
	Weighted Average										0.00%	8.99%

Source: Columns a,b,d,e,f,g and i were extracted from the January 7, 2005 Value Line.

Source: Column j represents the average estimated earnings growth extracted from Value Line, Zacks.com and Thomson FN.com.

Source: Column c was extracted from Yahoo Finance and represents 12/31/04 closing stock prices.

**2005 Capitalization Rate Study
Electric Generation Facilities
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
C+	AES Corp.	5.00%	13.00%	14.33%	10.78%
C+	Calpine Corp.	-5.50%	13.00%	10.00%	5.83%
C+	Reliant Resources	NA	7.00%	6.50%	6.75%
Mean		-0.25%	11.00%	10.28%	7.79%
Median		-0.25%	13.00%	10.00%	6.75%

2005 Capitalization Rate Study
Electric Generation Facilities
Capital Structure

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Common Stock Outstanding	Common Stock Price 12/31/04	Mkt Value Equity (\$millions)	L.T. Debt (\$millions)	Pfd Stock (\$millions)	Common Equity (\$millions)	Total Capital (\$millions)	L.T. Debt %	Pfd Stock %	Common Equity %	Debt Equity ratio
C+	AES Corp.	648,800,951	13.67	8,869.11	16,437.00	0.00	8,869.11	25,306.11	65%	0%	35%	1.85
C+	Calpine Corp.	534,306,554	3.94	2,105.17	17,200.00	0.00	2,105.17	19,305.17	89%	0%	11%	8.17
C+	Reliant Resources	298,671,506	13.65	4,076.87	4,839.70	0.00	4,076.87	8,916.57	54%	0%	46%	1.19
						Mean			69%	0%	31%	3.74
						Median			65%	0%	35%	
						Weighted Average			72%	0%	28%	

Source: Columns a,b,c,f and g were extracted from the January 7, 2005 Value Line.

Source: Column d was extracted from Yahoo Finance and represents 12/31/04 closing stock prices.

**2005 Capitalization Rate Study
Electric Generation Facilities
Beta Analysis**

a	b	c	d	e	f	g	h	i
Financial Strength		Value Line's	Zack's	Standard & Poor's	Average	Debt Equity	Unlevered	WTG Avg Debt/Equity
Value Line	Company Name	Beta	Beta	Beta	Beta	Ratio	Beta ¹	Ratio
C+	AES Corp.	1.90	2.06	2.00	1.99	1.85	0.94	0.88
C+	Calpine Corp.	2.15	2.49	2.00	2.21	8.17	0.38	2.95
C+	Reliant Resources	1.75	3.00	NA	2.38	1.19	1.39	0.20
	Mean	1.93	2.52	2.00	2.19	3.74	0.90	1.34
	Median	1.90	2.49	2.00	2.21		0.94	
	Weighted				2.13		0.81	
Relevered Beta based on 40% Debt Capital Structure and mean Unlevered Beta						1.26	¹	
Relevered Beta based on 40% Debt Capital Structure and a weighted average Unlevered Beta						1.14	²	

Formulas:

$$^1 \text{ Unlevered Beta} = \text{Average Beta} / [1 + (1-t)(D/E)]$$

$$^2 \text{ Relevered Beta} = [\text{Unlevered Beta}] [1 + (1-t)(D/E)]$$

Where: D/E is the debt to equity ratio

t is the tax rate (assumed to be 40%)

Source: Columns a,b,c were extracted from the January 7, 2005 Value Line.

Source: Column d was extracted from Zacks.com.

Source: Column e was extracted from Standard and Poor's Stock Reports.

Source: Column g was extracted from capital structure worksheet included in the 2005 Capitalization Rate Study.

California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Interexchange Telephone Companies

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Common Equity	Bond	Common Equity	Long Term Debt	Common Equity	Long Term Debt	
2014	Sprint Communications Co., L.P.	B	Baa3	65%	35%	14.40%	6.21%	11.53%
2310	AT&T Communications, Inc.	B	Ba1	65%	35%	14.40%	6.27%	11.55%
7677	Talk America, Inc.	B	NR	65%	35%	14.40%	7.18%	11.87%
7522	Time Warner Telecom of California, L.P.	C+	B3	55%	45%	16.49%	6.56%	12.02%
2463	Qwest Communications Corporation	C+	Caa1	55%	45%	16.49%	6.87%	12.16%
2043	Pac West Telecomm, Inc.	C+	NR	55%	45%	16.49%	7.18%	12.30%
7686	Primus Telecommunications, Inc.	C+	Caa2	55%	45%	16.49%	7.18%	12.30%
7761	Level 3 Communications, Inc.	C	Ca	55%	45%	16.49%	7.81%	12.58%
	Other Interexchange Carriers	Not Rated	Not Rated	55%	45%	19.63%	8.26%	14.51%
	Other Interexchange Resellers	Not Rated	Not Rated	55%	45%	22.77%	9.02%	16.59%

**2005 Capitalization Rate Study
Interexchange Telephone Companies
Industry Notes**

- Staff relied on the Capital Asset Pricing Model in the development of equity rates. Consideration was given to both the ex post and ex ante risk premiums.
- Staff did not consider the Discounted Cash Flow model because of the limited number of companies paying dividends.
- For companies whose common equity, preferred stocks and/or bonds are not rated, staff judgment is used in assigning the rates of return because the circumstances or reasons for not rating the bonds or preferred stocks are different for each company.
- Sprint Corporation is included in the sample for the 2005 capitalization rate study for local exchange, interexchange and wireless companies. Sprint generates significant revenues from local, long distance, and wireless operations.
- FiberNet Telecom Group, Inc. was added to the 2005 Capitalization Rate Study.
- The capitalization rates derived are intended to be applied only to the companies' unitary interexchange telephone operations.

2005 Capitalization Rate Study
Interexchange Telephone Companies
Flotation Cost Adjustment

Equity				Debt			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
B+	13.75%	4.50%	14.40%	Baa2	6.05%	1.70%	6.15%
B	13.75%	4.50%	14.40%	Baa3	6.11%	1.70%	6.21%
C+	15.75%	4.50%	16.49%	Ba1	6.16%	1.70%	6.27%
C	15.75%	4.50%	16.49%	B3	6.45%	1.70%	6.56%
Not Rated	16.75%	4.50%	17.54%	Caa1	6.75%	1.70%	6.87%
Other IEX Carriers	18.75%	4.50%	19.63%	Caa2	7.06%	1.70%	7.18%
Other IEX Resellers	21.75%	4.50%	22.77%	Caa3	7.37%	1.70%	7.49%
				Ca	7.67%	1.70%	7.81%
				Not Rated	8.12%	1.70%	8.26%
				Not Rated	8.87%	1.70%	9.02%

Formula - Cost of Capital Adjusted for Flotation Costs

$$\frac{k_u}{1 - f}$$

Where k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

**2005 Capitalization Rate Study
Interexchange Telephone Companies
Summary of Rates of Return**

Common Equity		Bonds		
V-L Rating	Rate of Return ¹	Moody's Bond Yield	Moody's Rating	Rate of Return ²
B+	13.75%	Aa=5.75	Aa2	5.75%
B	13.75%		Aa3	5.79%
C+	15.75%		A1	5.84%
C	15.75%		A2	5.88%
Not Rated	16.75%	Baa=6.05	A3	5.94%
Other IEX Carriers	18.75%		Baa1	5.99%
Other IEX Resellers	21.75%		Baa2	6.05%
			Baa3	6.11%
			Ba1	6.16%
			Ba2	6.22%
			Ba3	6.28%
			B1	6.33%
			B2	6.39%
			B3	6.45%
			Caa1	6.75%
			Caa2	7.06%
			Caa3	7.37%
			Ca	7.67%
			Not Rated	Note

¹ The Rate of Return on Common Equity was developed by staff based on the relative risk of the utilities in conjunction with the results of the Capital Asset Pricing Models.

² Rates of Return on Bonds were based on Moody's and "Utility Bond Yields" as taken from the December 31, 2004 News Reports. However, because Moody's assigns a yield only to the groups Aa, A and Baa for bonds, staff interpolates the difference between these groups in order to achieve a further refinement of the ratings.

Note: For companies whose bonds are not rated, staff judgement is used in assigning the rates of return because the circumstances or reasons for not rating the bonds or preferred stocks are different for each company.

2005 Capitalization Rate Study
Interexchange Telephone Companies
Summary of Rate of Return on Common Equity

	Value Line B+, B		
	2005	2004	Change
E/P Ratio-Mean	4.73%	5.46%	-0.73%
E/P Ratio-Median	6.04%	7.61%	-1.57%
Div Yld + Div Growth-Mean	3.92%	2.50%	1.42%
Div Yld + Div Growth-Median	1.06%	0.00%	1.06%
Weighted Average - Mean	1.14%	0.74%	0.40%
Div Yld + Earn.Growth-Mean	7.66%	9.43%	-1.77%
Div Yld + Earn.Growth-Median	12.80%	10.49%	2.31%
Weighted Average - Mean	1.72%	0.93%	0.79%

Value Line Ratings				
	B+, B	C+, C, NR	Other IEX Carriers	Other IEX Resellers
2004	12.25%	14.25%	17.25%	20.25%
CAPM - Ex Ante	13.81%	16.04%	NMF	NMF
CAPM - Ex Post	13.52%	15.68%	NMF	NMF
2005 Valuation Division Recommendation	13.75%	15.75%	18.75%	21.75%

2005 Capitalization Rate Study
Interexchange Telephone Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Financial Strength Value Line	Company Name	Stock Price 12/31/04	Estimated 2005 EPS	2004 EPS	2004 Dividends	Dividend Est. 2005 Amount	Dividend Yield (g/c)	Estimated Dividend Growth	Estimated Earnings Growth	E/P Ratio (d/c)	DvYld+ DvGrth (h+i)	DvYld+ ErngsGr (h+j)
B+	Net2Phone, Inc.	3.40	-0.40	-0.33	0.00	0.00	0.00%	0.00%	17.50%	-11.76%	0.00%	17.50%
B+	Commonwealth Tel.	49.66	2.85	2.80	0.00	0.00	0.00%	0.00%	6.48%	5.74%	0.00%	6.48%
B	AT&T Corporation	19.06	1.80	0.75	0.95	1.00	5.25%	7.00%	7.97%	9.44%	12.25%	13.21%
B	Sprint Corp. (FON Grp)	24.85	1.40	0.90	0.50	0.54	2.17%	7.00%	13.70%	5.63%	9.17%	15.87%
B	CT Communications	12.30	0.78	0.73	0.26	0.26	2.11%	0.00%	10.27%	6.34%	2.11%	12.38%
B	Talk America Holdings	6.62	0.86	1.24	0.00	0.00	0.00%	0.00%	-19.50%	12.99%	0.00%	-19.50%
C+	Qwest Comm. Int'l.	4.44	-0.35	-0.40	0.00	0.00	0.00%	0.00%	10.25%	-7.88%	0.00%	10.25%
C+	Time Warner Telecom	4.36	-0.93	-1.09	0.00	0.00	0.00%	0.00%	14.45%	-21.33%	0.00%	14.45%
C	Level 3 Comm., Inc.	3.39	-1.00	-1.00	0.00	0.00	0.00%	0.00%	15.00%	-29.50%	0.00%	15.00%
	Mean						0.79%	1.17%	8.46%	-3.22%	1.96%	9.52%
	Median						0.00%	0.00%	10.27%	1.87%	0.00%	13.21%
	Weighted Average										6.86%	13.70%

The Discounted Cash Flow model is not considered in the derivation of the 2005 capitalization rate because of the limited number of interexchange companies paying dividends.

Source: Columns a,b,d-i were extracted from the December 31, 2004 Value Line.

Source: Column c was extracted from Yahoo Finance December 31, 2004 closing stock prices.

Source: Column j is based on the average estimated earnings growth rate from Value Line, Zack's and Thomson Financial.

**2005 Capitalization Rate Study
Interexchange Telephone Companies
Capital Asset Pricing Model - Ex Ante**

Component	Value Line Rating	
	B+, B ¹	C+, C ¹
	(a)	(b)
Expected Future Return - S & P 500 ²	12.32%	12.32%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ³	4.88%	4.88%
Risk Premium	7.44%	7.44%
Relevered Beta	1.20	1.50
Adjusted Risk Premium	8.93%	11.16%
Risk Free Return 25 - 30 Year Treasury Bonds ³	4.88%	4.88%
Projected Return on Common Equity	13.81%	16.04%

¹ The estimated betas for B+, B, C+, and C rated companies are based on interexchange data from the Beta Analysis page.

² Expected Future Return - S & P 500

5 Year Projected Growth - First Call	10.60%
Dividend Yield for S&P 500 - 1/04/05	1.72%
	<u>12.32%</u>

³ Wall Street Journal dated December 31, 2004.

2005 Capitalization Rate Study
Interexchange Telephone Companies
Capital Asset Pricing Model - Ex Post

Component	Value Line Rating	
	B+, B ¹	C+, C ¹
	(a)	(b)
Total Return, Large Company Stocks ²	12.40%	12.40%
Less: Long Term Government Bonds ²	5.20%	5.20%
Risk Premium	7.20%	7.20%
Relevered Beta	1.20	1.50
Adjusted Risk Premium	8.64%	10.80%
Risk Free Return 25 - 30 Year Treasury Bonds ³	4.88%	4.88%
Projected Return on Common Equity	13.52%	15.68%

¹ The estimated betas for B+, B, C+, and C rated companies are based on interexchange data from the Beta Analysis page.

² Ibbotson Associates Study

³ Wall Street Journal dated December 31, 2004.

**2005 Capitalization Rate Study
Interexchange Telephone Companies
Beta Analysis**

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line's Beta	Zack's Beta	First Call Beta	Average Beta	Debt Equity Ratio	Unlevered Beta ¹	Wtg Avg Debt/Equity Ratio
B+	Net2Phone, Inc.	1.30	2.15	1.78	1.74	0.00	1.74	0.00
B+	Commonwealth Tel.	0.80	0.55	0.66	0.67	0.29	0.57	0.00
B	AT&T Corporation	1.25	1.00	0.60	0.95	0.59	0.70	0.18
B	Sprint Corp. (FON Grp)	1.05	1.31	1.43	1.26	0.45	1.00	0.30
B	CT Communications	1.20	0.80	1.15	1.05	0.29	0.90	0.00
B	Talk America Holdings	1.05	0.31	0.50	0.62	0.01	0.61	0.00
	Mean	1.11	1.02	1.02	1.05	0.27	0.92	
	Median	1.13	0.90	0.91	1.00		0.80	
	Weighted				1.16		0.90	0.48
C++	Fibernet Telecom Grp.	1.25	2.75	1.81	1.94	0.20	1.73	0.00
C+	Qwest Comm. Int'l.	1.70	2.68	1.37	1.92	2.05	0.86	1.45
C+	Primus Telecomm. Grp.	1.30	2.27	1.54	1.70	1.91	0.79	0.05
C+	Time Warner Telecom	2.20	4.18	1.73	2.70	2.48	1.09	0.13
C+	Pac-West Telecom, Inc.	1.25	2.03	1.06	1.45	1.32	0.81	0.00
C	Level 3 Comm., Inc.	1.55	1.56	0.38	1.16	2.17	0.51	0.46
	Mean	1.54	2.58	1.32	1.81	1.69	0.96	
	Median	1.43	2.48	1.46	1.81		0.83	
	Weighted				1.79		0.80	2.09

B or B+ Rating Relevered Beta based on 35% Debt Capital Structure

1.22 ²

C, C+ or C++ Rating Relevered Beta based on 45% Debt Capital Structure

1.44 ²

Formulas:

¹ Unlevered Beta = Beta/[1+(1-t)(D/E)]

² Relevered Beta = Unlevered Beta X [1+(1-t)(D/E)]

Where: D/E is the debt to equity ratio

t is the tax rate (assumed to be 40%)

**2005 Capitalization Rate Study
Interexchange Telephone Companies
Capital Structure**

a	b	c	d	e	f	g	h	i	j	k	l
Value Line Rating	Bond Rating Moody	Company Name	Common Stock Outstanding	Stock Price 12/31/04	Mkt Value Equity (\$Millions) (d x e)	Pfd Stock (\$Millions)	L.T. Debt (\$Millions)	Total Capital (\$Millions)	Common Equity %	Pfd Stock %	L.T. Debt %
B+	NR	Net2Phone, Inc.	78,484,000	3.40	266.8	0.0	0.0	266.8	100.000%	0.000%	0.000%
B+	NR	Commonwealth Tel.	20,967,826	49.66	1,041.3	0.0	300.0	1,341.3	77.633%	0.000%	22.367%
B	Ba1	AT&T Corporation	795,868,728	19.06	15,169.3	0.0	8,881.0	24,050.3	63.073%	0.000%	36.927%
B	Baa3	Sprint Corp. (FON Grp)	1,470,967,716	24.85	36,553.5	247.0	16,038.0	52,838.5	69.180%	0.467%	30.353%
B	NR	CT Communications	18,879,041	12.30	232.2	0.4	66.3	298.9	77.686%	0.134%	22.180%
B	NR	Talk America Holdings	25,660,286	6.62	169.9	0.0	2.4	172.3	98.607%	0.000%	1.393%
		Mean							81.030%	0.100%	18.870%
		Median							77.659%	0.000%	22.274%
		Weighted Average							67.664%	0.313%	32.023%
C++	NR	Fibernet Telecom Grp.	50,999,372	0.88	44.9	0.0	9.0	53.9	83.296%	0.000%	16.704%
C+	Caa1	Qwest Comm. Int'l.	1,815,907,850	4.44	8,062.6	0.0	16,545.0	24,607.6	32.765%	0.000%	67.235%
C+	Caa2	Primus Telecomm. Grp.	89,776,219	3.18	285.5	0.0	545.5	831.0	34.355%	0.000%	65.645%
C+	B3	Time Warner Telecom	115,784,570	4.36	504.8	0.0	1,249.5	1,754.3	28.776%	0.000%	71.224%
C+	NR	Pac-West Telecom, Inc.	36,687,668	1.32	48.4	0.0	63.8	112.2	43.151%	0.000%	56.849%
C	Ca	Level 3 Comm., Inc.	685,444,425	3.39	2,323.7	0.0	5,032.0	7,355.7	31.590%	0.000%	68.410%
		Mean							42.322%	0.000%	57.678%
		Median							33.560%	0.000%	66.440%
		Weighted Average							32.464%	0.000%	67.536%

NR: No rating

Source: Columns a, d, g - i were extracted from the December 31, 2004 Value Line; column b was extracted from the October 2004 Moody's Investor Service.
Column e was extracted from the December 31, 2004 Yahoo Finance closing stock prices.

California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Wireless Companies

SBE No.	Company Name	Rating	Capital Structure		Rates of Return		Basic Cap Rate
			Common Equity	Debt	Common Equity	Debt	
2512	Verizon Wireless (VAW) LLC	NR-1	70%	30%	13.17%	6.15%	11.07%
2513	Sacramento Valley Limited Partnership	NR-1	70%	30%	13.17%	6.15%	11.07%
2532	Los Angeles SMSA Ltd. Partnership	NR-1	70%	30%	13.17%	6.15%	11.07%
2559	GTE Mobilnet of California, Ltd. Partnership	NR-1	70%	30%	13.17%	6.15%	11.07%
2606	AT&T Wireless Services of California, LLC	NR-1	70%	30%	13.17%	6.15%	11.07%
2748	Pacific Bell Wireless, LLC	NR-1	70%	30%	13.17%	6.15%	11.07%
2756	Cingular Wireless, LLC	NR-1	70%	30%	13.17%	6.15%	11.07%
2720	Sprint Telephony PCS, L.P.	NR-2	65%	35%	13.87%	6.66%	11.35%
2722	Sprint Spectrum L.P.	NR-2	65%	35%	13.87%	6.66%	11.35%
2737	Nextel of California, Inc.	NR-2	65%	35%	13.87%	6.66%	11.35%
2755	Southwestern Bell Mobile Systems, LLC	NR-2	65%	35%	13.87%	6.66%	11.35%
2761	OmniPoint Communications Inc.	NR-2	65%	35%	13.87%	6.66%	11.35%
2552	Fresno MSA Limited Partnership	NR-3	60%	40%	14.60%	7.17%	11.63%
2627	GTE Mobilnet of Santa Barbara, L.P.	NR-3	60%	40%	14.60%	7.17%	11.63%
2671	California Rural Service Area #1, Inc.	NR-3	60%	40%	14.60%	7.17%	11.63%
2733	Metro PCS California/Florida, Inc.	NR-3	60%	40%	14.60%	7.17%	11.63%
2745	West Coast P.C.S.	NR-3	60%	40%	14.60%	7.17%	11.63%
	Other Wireless Companies	NR-4	60%	40%	17.00%	7.68%	13.27%
	Wireless Reseller Companies	NR-5	60%	40%	19.50%	8.19%	14.98%

NR-1: Companies providing service to large and more mature wireless markets in California
NR-2: Companies providing service to large to midsize wireless markets in California
NR-3: Companies providing service to midsize wireless markets in California
NR-4: Other wireless carriers (including Radio Telephone companies)
NR-5: All wireless reseller companies

**2005 Capitalization Rate Study
Wireless Companies
Industry Notes**

- Staff relied on the Capital Asset Pricing Model in the development of equity rates. Consideration was given to both the Ex Post and Ex Ante risk premium.
- Consideration was given to size premiums in assigning equity rates to the smaller wireless companies.
- The Discounted Cash Flow model was not relied upon because a majority of the companies in the study are not currently paying dividends. In addition, the reported earnings growth projections may not be sustainable.
- Sprint Corporation is included in the sample for the 2005 capitalization rate study for local exchange, interexchange and wireless companies. Sprint generates significant revenues from local, long distance, and wireless operations.

**2005 Capitalization Rate Study
Wireless Companies
Flotation Cost Adjustment**

Equity				Bond			
Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate ²	Flotation Cost in %	Adjusted Rate
NR-1	Note ¹		13.17%	Not Rated	6.05%	1.70%	6.15%
NR-2	13.25%	4.50%	13.87%	Not Rated	6.55%	1.70%	6.66%
NR-3	Note ¹		14.60%	Not Rated	7.05%	1.70%	7.17%
NR-4	Note ¹		17.00%	Not Rated	7.55%	1.70%	7.68%
NR-5	Note ¹		19.50%	Not Rated	8.05%	1.70%	8.19%

¹ Staff relied upon the Ex Post and Ex Ante Capital Asset Pricing Model (CAPM) estimating the recommended equity rates for NR-2 categories. Equity rates for the other non-rated categories (NR-1, NR-3, NR-4, NR-5) were extrapolated based on analyzing the relative risks of operating a wireless system within these categories.

² Staff reviewed bonds issued by major wireless companies with a presence in the major markets which revealed a bond rating of A. Based on this, staff concludes that a reasonable debt rate is 6.05% (Moody's Baa), with an increase in the rates for the smaller market categories.

Formula - Cost of Capital Adjusted for Flotation Costs

$$\frac{k_u}{1 - f}$$

Where k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

2005 Capitalization Rate Study
Wireless Companies
Capital Asset Pricing Model - Ex Ante

Component	Industry Computation
Expected Future Return, S&P 500 ¹	12.32%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ²	<u>4.88%</u>
Ex-Ante Risk Premium	7.44%
Beta ³	<u>1.15</u>
Adjusted Risk Premium	8.56%
Risk Free Return 25 - 30 Year Treasury Bonds ²	<u>4.88%</u>
Projected Return on Common Equity	<u><u>13.44%</u></u>

¹ Expected Future Return , S&P 500

Dividend Yield for S&P 500 - 12/31/04

1.72%

5 Year Projected Growth - First Call

10.60%

12.32%

² From the Wall Street Journal dated December 31, 2004.

³ Staff's estimate of Beta. See Beta Analysis for further detail.

2005 Capitalization Rate Study
Wireless Companies
Capital Asset Pricing Model - Ex Post

Component	Industry Computation
Common Stock Return (1926-2004) ¹	12.40%
Less: Income Return, L/T Government Bonds (1926-2004) ¹	<u>5.20%</u>
Ex-Post Risk Premium	7.20%
Beta ²	<u>1.15</u>
Adjusted Risk Premium	8.28%
Risk Free Return 25 - 30 Year Treasury Bonds ³	<u>4.88%</u>
Projected Return on Common Equity	<u><u>13.16%</u></u>

¹ Ibbotson Associates, Inc. Study

² Staff's estimate of Beta. See Beta Analysis for further detail.

³ From the Wall Street Journal dated December 31, 2004.

2005 Capitalization Rate Study
Wireless Companies
Equity Rates

a	b	c	d	e	f	g	h	I	j	k	l	m
Value Line		Stock	Est.			2005	Dividend	Estimated	Estimated	E/P	Div Yld+	DvYld+
Rating	Company Name	Price	2005	2004	2004	Estimated	Yield	Dividend	Earnings	Ratio	DvGwth	ErnsGwth
		12/31/04	Earnings	Earnings	Dividends	Dividends	(g/c)	Growth	Growth	(d/c)	(h+i)	(h+j)
A	Alltel Corp.	58.76	3.45	3.30	1.49	1.53	2.60%	4.00%	6.52%	5.87%	6.60%	9.12%
B+	Nextel Communications	30.01	1.75	1.85	-	-	-	-	13.80%	5.83%	-	13.80%
B	US Cellular	44.76	1.35	0.95	-	-	-	-	13.83%	3.02%	-	13.83%
B	Telephone & Data Systems ¹	76.95	2.50	1.72	0.66	0.70	0.91%	4.00%	20.35%	3.25%	4.91%	21.26%
B	Sprint Corp.	24.85	1.40	0.90	0.50	0.54	2.17%	7.00%	13.70%	5.63%	9.17%	15.87%
C+	Western Wireless	29.30	2.20	1.60	-	-	-	-	15.28%	7.51%	-	15.28%
Mean								5.00%	13.91%	5.19%	6.89%	14.86%
Median								2.00%	13.82%	5.73%	2.46%	14.56%
Weighted Average												14.30%

¹ Parent company of US Cellular

Note: Based on dividend yield plus earnings growth, the range of rates indicates 9.12% to 21.26%.

The DCF model was not relied upon because a majority of the companies available for inclusion in the study were not paying dividends. In addition, the reported earnings growth rates may not be sustainable.

Sources: Columns a, d, e, f, g and i were obtained from Value Line.

Column c was obtained from the Wall Street Journal dated January 03, 2005.

Column j is from the average column of the Long-Term Earnings Growth page.

2005 Capitalization Rate Study
Wireless Companies
Long-Term Earnings Growth

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
A	Alltel Corp.	6.50%	6.10%	6.96%	6.52%
B+	Nextel Communications	NMF	14.30%	13.30%	13.80%
B	US Cellular	8.50%	15.60%	17.38%	13.83%
B	Telephone & Data Systems ¹	7.00%	25.60%	28.45%	20.35%
B	Sprint Corp.	NMF	11.90%	15.49%	13.70%
C+	Western Wireless	NMF	15.70%	14.85%	15.28%
	Mean	7.33%	14.87%	16.07%	13.91%
	Median	7.00%	14.95%	15.17%	13.81%
	Weighted Average				12.97%

¹ Parent company of US Cellular

2005 Capitalization Rate Study
Wireless Companies
Beta Analysis

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zacks Beta	Standard & Poor's Beta	Average Beta	Debt Equity Ratio	Unlevered Beta ²	WTG Avg Debt/Equity Ratio
A	Alltel Corp.	1.00	0.83	0.83	0.89	0.30	0.75	0.05
B+	Nextel Communications	1.75	2.11	2.08	1.98	0.28	1.70	0.09
B	US Cellular	1.10	1.10	1.05	1.08	0.30	0.92	0.01
B	Telephone & Data Systems ¹	1.05	1.20	1.13	1.13	0.83	0.75	0.05
B	Sprint Corp.	1.05	1.31	1.27	1.21	0.45	0.95	0.17
C+	Western Wireless	1.40	1.96	1.93	1.76	0.71	1.23	0.03
Mean		1.23	1.42	1.38	1.34	0.48	1.05	
Median		1.08	1.26	1.20	1.17		0.94	
Weighted					1.41		1.15	0.40
Relevered Beta using an average Beta and based on Debt Capital structure of: ³				30%	35%	40%		
				1.32	1.39	1.47		
Relevered Beta using a weighted average Beta and based on Debt Capital structure of: ³				1.44	1.52	1.61		

Comments:

The companies listed above represent less than 40% of the wireless market in the U.S. Other companies that represent the majority of the market are not included because their stock is not listed or they are subsidiaries of larger companies. Therefore, staff's estimate of Beta used for the CAPM is 1.15 for the companies representing large to midsize wireless markets in California.

¹ Parent company of US Cellular

Formulas:

² Unlevered Beta = Beta/[1+(1-t)(D/E)]

³ Relevered Beta = Unlevered Beta X [1+(1-t)(D/E)]

Where: D/E is the debt to equity ratio

t is the tax rate (assumed to be 40%)

2005 Capitalization Rate Study
Wireless Companies
Debt Rate

Debt Rate - 6.05% for Major Markets

There was no known debt issuance close to the lien date from any pure wireless operator. However, a review of long-term bond yields as of the lien date for major wireless companies with a presence in the major markets revealed yields ranging from 5.42% to 7.03%, with a bond rating of A. Based on this, staff feels that a reasonable debt rate for similar companies should be 6.05%, with an increase in the rates for midsize and smaller companies.

Other Debt Rates Considered

Moody's Utility Bond Yield (A) - 12/31/04 ¹	5.88%
Moody's Utility Bond Yield (Baa) - 12/31/04 ¹	6.05%
Standard & Poor's Bond Yield Index (A) - Dec. 2004 Average ²	5.45%

¹ Obtained from Moodys via telephone as of December 31, 2004.

² Obtained from Standard & Poor's 2004 Bond Guide Yield Curves dated January 2005, estimated from the graphical representation.

2005 Capitalization Rate Study
Wireless Companies
Capital Structure

a	b	c	d	e	f	g	h	i	j	k
Value Line Rating	Company Name	Common Equity			Preferred Stock (\$Millions)	Long-Term Debt (\$Millions)	Total Capital (\$Millions) (e+f+g)	Ratios		
		Shares (Millions)	Market Value (\$Per Share)	Total (\$Millions) (c*d)				Common Equity (e/h)	Preferred Stock (f/h)	Long-Term Debt (g/h)
A	Alltel Corp.	303.76	58.76	17,848.79	0.34	5,380.00	23,229.14	76.84%		23.16%
B+	Nextel Communications	1,111.29	30.01	33,349.74	105.00	9,102.00	42,556.74	78.37%	0.25%	21.39%
B	US Cellular	86.36	44.76	3,865.34	-	1,160.70	5,026.04	76.91%		23.09%
B	Telephone & Data Systems ¹	57.40	76.95	4,416.89	3.90	3,682.50	8,103.29	54.51%	0.05%	45.44%
B	Sprint Corp.	1,470.97	24.85	36,553.55	247.00	16,038.00	52,838.55	69.18%	0.47%	30.35%
C+	Western Wireless	99.97	29.30	2,929.12	-	2,092.40	5,021.52	58.33%		41.67%
Totals							136,775.27			
Entire Sample Population:							Mean	69.02%	0.25%	30.85%
							Median	73.01%	0.25%	26.76%
							Weighted Average	72.35%	0.26%	27.38%

¹ Parent company of US Cellular

Sources: Columns a,c,f and g were obtained from Value Line dated December 31, 2004.

Column d (stock price) was obtained from the Wall Street Journal dated January 03, 2005.

2005 Capitalization Rate Study
Wireless Companies
Comparison of Wireless Companies for Lien Dates 2004 and 2005

	2004					2005					Differences				
Rating	Common Equity Rate	Capital Structure %	Debt Rate	Capital Structure %	Basic Cap Rate	Common Equity Rate	Capital Structure %	Debt Rate	Capital Structure %	Basic Cap Rate	Common Equity Rate	Capital Structure %	Debt Rate	Capital Structure %	Basic Cap Rate
NR-1	15.25%	70%	7.02%	30%	12.78%	13.17%	70%	6.15%	30%	11.07%	-2.08%	0%	-0.86%	0%	-1.71%
NR-2	16.02%	65%	7.27%	35%	12.96%	13.87%	65%	6.66%	35%	11.35%	-2.15%	0%	-0.61%	0%	-1.61%
NR-3	16.75%	60%	7.53%	40%	13.06%	14.60%	60%	7.17%	40%	11.63%	-2.15%	0%	-0.36%	0%	-1.43%
NR-4	19.25%	60%	7.78%	40%	14.66%	17.00%	60%	7.68%	40%	13.27%	-2.25%	0%	-0.10%	0%	-1.39%
NR-5	22.25%	60%	8.80%	40%	16.87%	19.50%	60%	8.19%	40%	14.98%	-2.75%	0%	-0.61%	0%	-1.89%

2005 Capitalization Rate Study
Wireless Companies
Size Premium

Decile of the New York Stock Exchange	Equity Market Capitalization (in thousands)			Size Premium (Return in excess of CAPM)
1	over		14,096,886	-0.37
2	6,241,953	to	14,096,886	0.60
3	3,464,104	to	6,241,953	0.75
4	2,231,707	to	3,464,104	1.07
5	1,607,854	to	2,231,707	1.44
6	1,097,603	to	1,607,854	1.75
7	746,219	to	1,097,603	1.61
8	505,437	to	746,219	2.36
9	262,725	to	505,437	2.86
10	under		262,725	6.41

Source: SBBI:Valuation Edition 2005 Yearbook, Table 2

**California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Pipeline Companies**

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Common Equity	Bond	Common Equity	Debt	Equity	Debt	
461	SFPP, L.P.	NR-1	NR-b	65%	35%	12.57%	6.20%	10.34%
402	CALNEV Pipe Line LLC	NR-1	NR-b	65%	35%	12.57%	6.20%	10.34%
465	Plains Pipeline, L.P.	NR-2	NR-b	65%	35%	13.09%	6.20%	10.68%
479	Chevron Pipeline Company	NR-2	NR-b	65%	35%	13.09%	6.20%	10.68%
468	Shell California Pipeline Company LLC	NR-2	NR-b	65%	35%	13.09%	6.20%	10.68%
486	Pacific Pipeline System, LLP	NR-2	NR-b	65%	35%	13.09%	6.20%	10.68%
480	UNOCAP	NR-2	NR-b	65%	35%	13.09%	6.20%	10.68%
	Other Pipeline Companies	NR-3	NR-c	65%	35%	14.14%	7.22%	11.71%

**2005 Capitalization Rate Study
Pipeline Companies
Industry Notes**

- Staff relied primarily on the Discounted Cash Flow model.
- In assigning equity rates to smaller pipeline companies, the size premium information from Ibbotson and Associates was considered.

**2005 Capitalization Rate Study
Pipeline Companies
Flotation Cost Adjustment**

Equity				Debt			
Value Line Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost in %	Adjusted Rate
B+	12.00%	4.50%	12.57%	Baa	6.10%	1.70%	6.20%
NR-1	12.00%	4.50%	12.57%	NR-b	6.10%	1.70%	6.20%
NR-2	12.50%	4.50%	13.09%	NR-c	7.10%	1.70%	7.22%
NR-3	13.50%	4.50%	14.14%				

Formula - Cost of Capital Adjusted for Flotation Costs

$$\frac{k_u}{1 - f}$$

Where k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

NR-1: Not-Rated-1 pipelines are not directly traded because they are subsidiaries of larger companies.
These are larger common carrier pipelines transmitting refined petroleum products.

NR-2: Not-Rated-2 pipelines are not directly traded because they are subsidiaries of larger companies.
These are larger common carrier pipelines transmitting crude oil.

NR-3: Not-Rated-3 pipelines are smaller companies transporting petroleum products or crude oil.

NR-b: Although these companies do not have rated debt securities, the rating class "Baa" was chosen to represent these subsidiaries of larger corporations.

NR-c: Issues of this size are not normally rated. An additional increment of 100 basis points (1.0%), before flotation costs, has been added to the "Baa" rate.

2005 Capitalization Rate Study
Pipeline Companies
Summary of Return on Common Equity

Description	2005	2004	Change
E/P Ratio - Mean	4.88%	4.70%	0.18%
E/P Ratio - Median	4.70%	4.06%	0.64%
Dividend Yield + Dividend Growth - Mean	11.60%	12.20%	-0.60%
Dividend Yield + Dividend Growth - Median	11.17%	12.58%	-1.41%
Dividend Yield + Earnings Growth - Mean	11.93%	12.08%	-0.15%
Dividend Yield + Earnings Growth - Median	11.16%	11.33%	-0.17%
Capital Asset Pricing Model (CAPM) - Ex Ante	7.04%	7.32%	-0.28%
Capital Asset Pricing Model (CAPM) - Ex Post	6.97%	7.46%	-0.49%

2005 recommended equity rates:

12.00% for Common Carrier product lines

12.50% for Common Carrier crude oil lines

13.50% for all other pipelines

2005 Capitalization Rate Study
Pipeline Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l
Value Line		Stock				2005	2005	2005	E/P	Div Yld+	Div Yld+
Rating	Company Name	Price	2004	2004	2005	Dividend	Hist. Div	Avg. Erns	Ratio	Div Gwth	Erns Gwth
		01/01/05	Earnings	Dividends	Est Div	Yield	Growth	Growth	(d/c)	(g+h)	(g+i)
B+	Buckeye Partners, L.P.	42.32	2.80	2.64	2.70	6.38%	2.00%	4.78%	6.62%	8.38%	11.16%
A	Enbridge Energy	51.57	2.09	3.70	3.70	7.17%	4.00%	-0.17%	4.05%	11.17%	7.01%
B++	Kaneb Pipe Line Partners	60.87	2.86	3.30	3.39	5.57%	5.00%	5.29%	4.70%	10.57%	10.86%
B+	Kinder Morgan Energy Partners, L.P.	44.33	2.20	2.81	3.05	6.88%	8.50%	9.23%	4.96%	15.38%	16.11%
B	TEPPCO Partners, L.P.	39.39	1.60	2.64	2.75	6.98%	5.50%	7.50%	4.06%	12.48%	14.48%
		Mean					5.00%	5.33%	4.88%	11.60%	11.93%
		Median					5.00%	5.29%	4.70%	11.17%	11.16%
		Weighted Average									13.43%

Columns a, d, e, f, and h were extracted from Value Line.

Column c was extracted from the Yahoo Market Guide.

Column i is an average of Value Line, Zacks, and Thomson.

**2005 Capitalization Rate Study
Pipeline Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
B+	Buckeye Partners, L.P.	5.50%	4.60%	4.25%	4.78%
A	Enbridge Energy	-10.50%	5.00%	5.00%	-0.17%
B++	Kaneb Pipe Line Partners	3.50%	6.70%	5.67%	5.29%
B+	Kinder Morgan Energy Partners, L.P.	10.00%	9.50%	8.20%	9.23%
B	TEPPCO Partners, L.P.	7.50%	6.30%	8.70%	7.50%
	Mean	3.20%	6.42%	6.36%	5.33%
	Median	5.50%	6.30%	5.67%	5.29%
	Weighted Average				6.64%

2005 Capitalization Rate Study
Pipeline Companies
Capital Asset Pricing Model - Ex Ante

Component	Industry Computation
Expected Future Return, S&P 500 ¹	12.32%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ²	4.88%
Risk Premium	7.44%
Beta ³	0.29
Adjusted Risk Premium	2.16%
Risk Free Return 25 - 30 Year Treasury Bonds ²	4.88%
Projected Return on Common Equity	7.04%

¹ Dividend Yield for S&P 500@12/31/2004	1.72%
5 Year projected growth per First Call	10.60%
Expected future Return, S&P 500	12.32%

² Wall Street Journal 12/31/2004 data.

³ Weighted average using betas from Value Line, Zacks, and Standard & Poor for a representative sample of pipeline companies.

2005 Capitalization Rate Study
Pipeline Companies
Capital Asset Pricing Model - Ex Post

Component	Industry Computation
Common Stock Return (1926 - 2004) ¹	12.40%
Less: Long Term Government Bonds ¹	5.20%
Risk Premium	7.20%
Beta ²	0.29
Adjusted Risk Premium	2.09%
Risk Free Return 25 - 30 Year Treasury Bonds ³	4.88%
Projected Return on Common Equity	6.97%

¹ Ibbotson Associates Study.

² Weighted average using betas from Value Line, Zacks, and Standard & Poor for a representative sample of pipeline companies.

³ Wall Street Journal 12/31/2004 data

**2005 Capitalization Rate Study
Pipeline Companies
Beta Analysis**

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zack Beta	Standard & Poor's Beta	Average Beta	Debt Equity Ratio	Unlevered Beta ¹	WTG Avg Debt/Equity Ratio
B+	Buckeye Partners, L.P.	0.70	0.12	0.12	0.31	0.35	0.26	0.06
B++	Kanab Pipe Line Partners	0.60	0.04	0.04	0.23	0.38	0.18	0.03
B+	Kinder Morgan Energy Partners, L.P.	0.70	0.38	0.35	0.48	0.54	0.36	0.05
B	TEPPCO Partners, L.P.	0.60	0.08	0.11	0.26	0.59	0.19	0.39
	Mean	0.65	0.16	0.16	0.32	0.47	0.25	
	Median	0.65	0.10	0.12	0.29		0.23	
	Weighted Average				0.29		0.22	0.53

Relevered beta based on 35% Debt Capital Structure 0.33 ²

Relevered beta based on 35% Debt Capital Structure and a weighted average beta 0.29 ²

Formulas:

¹ Unlevered beta = beta/[1+(1-t)(D/E)]

² Relevered beta = Unlevered beta X [1+(1-t)(D/E)]

Where: D/E is the debt to equity ratio

t is the tax rate (assumed to be 40%)

Enbridge Energy was removed because no meaningful beta information was available from Zacks and Standard and Poors.

**2005 Capitalization Rate Study
Pipeline Companies
Capital Structure**

a	b	c	d	e	f	g	h	i	j
Value Line Rating	Moody Bond Rating	Company Name	Partnership Units Outstanding (000)	Unit Price 12/31/04	Market Value Equity (000)	Long Term Debt (000)	Total Capital (000)	Long Term Debt %	Equity %
B+	N/R	Buckeye Partners, L.P.	34,523	42.32	1,461,001	509,800	1,970,801	25.87%	74.13%
A	N/R	Enbridge Energy	58,887	51.57	3,036,787	1,575,500	4,612,287	34.16%	65.84%
B++	N/R	Kaneb Pipe Line Partners	28,328	60.87	1,724,295	662,200	2,386,495	27.75%	72.25%
B+	N/R	Kinder Morgan Energy Partners, L.P.	197,289	44.33	8,745,821	4,740,100	13,485,921	35.15%	64.85%
B	N/R	TEPPCO Partners, L.P.	62,999	39.39	2,481,515	1,454,100	3,935,615	36.95%	63.05%
		Total			17,449,419	8,941,700	26,391,119		
		Mean						31.97%	68.03%
		Median						34.16%	65.84%
		Weighted Average						33.88%	66.12%

Recommended Capital Structure for Common Carrier Pipelines for Lien Date 01/01/05 is:

Debt - 35%
Equity - 65%

Source:

Columns a, d, g, and h were extracted from Value Line.

Column b was extracted from the 2004 Moody's Public Utility and Industrial Manuals.

Column e was extracted from the Yahoo Market Guide.

2005 Capitalization Rate Study
Pipeline Companies
Debt Yield Rate

Average of Industrial and Public Utility Bond Yield:

Aa	Industrial/Utility Average	5.66%	
A	Industrial/Utility Average	5.77%	
		5.66%	Aa
		5.77%	A
Baa	Industrial/Utility Average	6.10%	
	Recommended	6.10%	Baa/Ba

	Bond Rating	Industrial	Public Utility	2005 Average
	Aaa	5.43%	N/A	5.43%
	Aa	5.56%	5.75%	5.66%
	A	5.66%	5.88%	5.77%
	Baa	6.14%	6.05%	6.10%

**2005 Capitalization Rate Study
Pipeline Companies
Size Premium**

Decile of the New York Stock Exchange	Equity Market Capitalization (in thousands)			Size Premium (Return in excess of CAPM)
1	14,096,886	to	over	-0.37
2	6,241,953	to	14,096,886	0.60
3	3,464,104	to	6,241,953	0.75
4	2,231,707	to	3,464,104	1.07
5	1,607,851	to	2,231,707	1.44
6	1,097,603	to	1,607,851	1.75
7	746,219	to	1,097,603	1.61
8	505,437	to	746,219	2.36
9	262,725	to	505,437	2.86
10	under		262,725	6.41

Source: SBBI: Valuation Edition 2005 Yearbook
Tables 2

California State Board of Equalization
Valuation Division
2005 Capitalization Rate Study
Railroads

SBE No.	Company Name	Ratings		Capital Structure		Rates of Return		Basic Cap Rate
		Common Equity	Bond	Common Equity	Debt	Common Equity	Debt	
804	Burlington Northern Santa Fe Railroad Co.	B+	Baa2	66%	34%	13.61%	6.20%	11.09%
843	Union Pacific Railroad Company	B+	Baa2	66%	34%	13.61%	6.20%	11.09%
802	Central Oregon and Pacific Railroad	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
810	California Northern Railroad	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
813	Pacific Harbor Lines	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
850	Modesto and Empire Traction Company	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
865	San Diego & Imperial Valley Railroad Co. Inc.	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
882	Trona Railway Co.	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
897	San Joaquin Valley Railroad Company	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
899	ParkSierra Corporation	N/R-1	N/R-1	60%	40%	15.71%	7.73%	12.51%
	Other Railroad Companies	N/R-2	N/R-2	60%	40%	15.97%	8.74%	13.08%

**2005 Capitalization Rate Study
Railroad Companies
Industry Notes**

- Staff relied upon the results of the following models in forecasting equity rates:
 1. Discounted Cash Flow analysis
 2. Capital Asset Pricing Model - Consideration was given to both the ex post and ex ante risk premiums
- Assessee submitted information supporting the position that Zack's and Standard and Poor's betas for Class 1 railroads understated risk over the five-year measurement period. The submitted information was considered with the Value Line beta in establishing the rate of return estimate for the Capital Asset Pricing Model.

**2005 Capitalization Rate Study
Railroad Companies
Flotation Cost Adjustment**

Equity				Debt			
Value Line Rating	Recommended Rate	Flotation Cost In %	Adjusted Rate	Moody's Rating	Recommended Rate	Flotation Cost In %	Adjusted Rate
B+	13.00%	4.50%	13.61%	Baa2	6.10%	1.70%	6.20%
N/R-1	15.00%	4.50%	15.71%	N/R-1 ¹	7.60%	1.70%	7.73%
N/R-2	15.25%	4.50%	15.97%	N/R-2 ²	8.60%	1.70%	8.74%

Formula - Cost of Capital Adjusted for Flotation Costs

$$\frac{k_u}{1 - f}$$

Where k_u = The cost of capital unadjusted for flotation costs

f = Flotation cost as a percentage of the value of securities issued

¹ N/R-1: Represent short line railroad companies with stable historical income. An additional 150 basis points (1.5%) were added to the Baa2 bond rate to represent the additional risk premium.

² N/R-2: Represent short line railroad companies without stable historical income patterns. An additional 250 basis points (2.5%) were added to the Baa2 bond rate to represent the additional risk premium.

2005 Capitalization Rate Study
Railroad Companies
Equity Rates 2005 vs. 2004

Description	2005	2004	Change
E/P Ratio - Mean	6.34%	6.87%	-0.53%
E/P Ratio - Median	6.56%	6.93%	-0.37%
Dividend Yield + Dividend Growth - Mean	10.66%	5.14%	5.52%
Dividend Yield + Dividend Growth - Median	11.43%	4.35%	7.08%
Dividend Yield + Earnings Growth - Mean	13.16%	12.65%	0.51%
Dividend Yield + Earnings Growth - Median	13.13%	12.92%	0.21%
Capital Asset Pricing Model - Ex post	12.08%	12.00%	0.08%
Capital Asset Pricing Model - Ex ante	12.32%	11.58%	0.74%

2005 Capitalization Rate Study
Railroad Companies
Equity Rates

a	b	c	d	e	f	g	h	i	j	k	l	m
Value Line Rating	Company Name	Stock Price 12/31/04	Est Erns Value Line 2005	Earnings 2004	Dividends 2004	Est Div 2005	Div Yield 2005 (g/c)	ValueLine Dividend Est Gwth	Average Est Erns Gwth	E/P Ratio (d/c)	Div Yld + Dv Gwth (h+i)	Dv Yld + Erns Gwth (h+j)
Class 1 Railroads:												
B+	Burlington Northern	47.31	3.15	2.75	0.64	0.75	1.59%	12.00%	11.88%	6.66%	13.59%	13.47%
B++	CSX	40.08	2.60	2.00	0.40	0.46	1.15%	4.50%	11.65%	6.49%	5.65%	12.80%
B	Norfolk Southern Corp	36.19	2.40	2.10	0.36	0.40	1.11%	13.00%	14.90%	6.63%	14.11%	16.01%
B+	Union Pacific	67.25	3.75	2.70	1.20	1.20	1.78%	7.50%	8.58%	5.58%	9.28%	10.37%
Mean							1.41%	9.25%	11.75%	6.34%	10.66%	13.16%
Median							1.37%	9.75%	11.77%	6.56%	11.43%	13.13%
Weighted Average											11.01%	13.06%

Source:

Columns a, d - g, i, were extracted from Value Line.

Column c was extracted from the Yahoo Market Guide.

**2005 Capitalization Rate Study
Railroad Companies
Long Term Earnings Growth**

a	b	c	d	e	f
Value Line Rating	Company Name	Value Line	Zacks	Thomson	Average
Class 1 Railroads:					
B+	Burlington Northern	11.50%	11.40%	12.75%	11.88%
B++	CSX	12.00%	11.20%	11.75%	11.65%
B	Norfolk Southern Corp	18.00%	12.60%	14.10%	14.90%
B+	Union Pacific	5.00%	10.00%	10.75%	8.58%
	Mean	11.63%	11.30%	12.34%	11.75%
	Median	11.75%	11.30%	12.25%	11.77%
	Weighted Average				11.61%

**2005 Capitalization Rate Study
Railroad Companies
Capital Asset Pricing Model - Ex Ante**

Component	Industry Computation
Expected Future Return, S&P 500 ¹	12.32%
Less: Risk Free Return 25 - 30 Year Treasury Bonds ²	4.88%
Risk Premium	7.44%
Beta ³	1.00
Adjusted Risk Premium	7.44%
Risk Free Return 25 - 30 Year Treasury Bonds ²	4.88%
Projected Return on Common Equity	<u>12.32%</u>

¹ Dividend yield for S&P 500 @ 12/31/2004	1.72%
5 year projected growth per First Call	<u>10.60%</u>
Expected Future Return, S&P 500	<u>12.32%</u>

² Wall Street Journal 12/31/2004 data

³ Assessee submitted information supporting the position that Zack's and Standard and Poor's betas for Class 1 railroads understated risk over the five-year measurement period. The submitted information was considered with the Value Line beta in establishing the rate of return estimate for the Capital Asset Pricing Model.

**2005 Capitalization Rate Study
Railroad Companies
Capital Asset Pricing Model - Ex Post**

Component	Industry Computation
Common Stock Return (1926 - 2004) ¹	12.40%
Less: Long Term Government Bonds ¹	5.20%
Risk Premium	7.20%
Beta ²	1.00
Adjusted Risk Premium	7.20%
Risk Free Return 25 - 30 Year Treasury Bonds ³	4.88%
Projected Return on Common Equity	12.08%

¹ Ibbotson Associates Study

² Assessee submitted information supporting the position that Zack's and Standard and Poor's betas for Class 1 railroads understated risk over the five-year measurement period. The submitted information was considered with the Value Line beta in establishing the rate of return estimate for the Capital Asset Pricing Model.

³ Wall Street Journal 12/31/2004 data

2005 Capitalization Rate Study
Railroad Companies
Beta Analysis

a	b	c	d	e	f	g	h	i
Value Line Rating	Company Name	Value Line Beta	Zack's Beta	Standard & Poor's Beta	Average Beta	Debt Equity Ratio	Unlevered Beta ¹	WTG Avg Debt/Equity Ratio
Class 1 Railroads:								
B+	Burlington Northern	0.95	0.51	0.52	0.66	0.36	0.54	0.10
B++	CSX	1.05	0.58	0.59	0.74	0.82	0.50	0.15
B	Norfolk Southern Corp	1.05	0.51	0.52	0.69	0.49	0.54	0.12
B+	Union Pacific	0.90	0.35	0.36	0.54	0.46	0.42	0.13
Mean		0.99	0.49	0.50	0.66	0.53	0.50	
Median		1.00	0.51	0.52	0.68		0.52	
Weighted Average					0.65		0.50	0.50
Relevered Beta based on 34% Debt Capital Structure						0.65 ²		
Relevered Beta based on 34% Debt Capital Structure and a weighted average Beta						0.65 ²		
Non-Class 1 Railroads:								
B+	Genesee and Wyoming	1.00	0.43	0.69	0.71	0.16	0.64	0.08
B	Rail America	1.05	N/A	N/A	1.05	0.77	0.72	0.38
Mean		1.03	0.43	0.69	0.88	0.47	0.68	
Median		1.03	0.43	0.69	0.88		0.68	
Weighted Average					0.88		0.68	0.46
Relevered Beta based on 40% Debt Capital Structure						0.95 ²		
Relevered Beta based on 40% Debt Capital Structure and a weighted average Beta						0.95 ²		

Formulas:

¹ Unlevered Beta = Beta/[1+(1-t)(D/E)]

² Relevered Beta = Unlevered Beta X [1+(1-t)(D/E)]

Where: D/E is the debt to equity ratio

t is the tax rate (assumed to be 40%)

**2005 Capitalization Rate Study
Railroad Companies
Capital Structure**

a	b	c	d	e	f	h	i	j	l
Value Line Rating	Moody Bond Rating	Company Name	Common Stock Outstanding (000)	Common Stock Price 12/31/04	Market Value Equity (000)	Long Term Debt (000)	Total Capital (000)	Long Term Debt %	Common Equity %
Class 1 Railroads:									
B+	Baa2	Burlington Northern	375,922	47.31	17,784,870	6,357,000	24,141,870	26.33%	73.67%
B++	Baa2	CSX	214,830	40.08	8,610,386	7,096,000	15,706,386	45.18%	54.82%
B	Baa1	Norfolk Southern Corp	396,007	36.19	14,331,493	7,019,000	21,350,493	32.88%	67.12%
B+	Baa2	Union Pacific	259,585	67.25	17,457,091	7,996,000	25,453,091	31.41%	68.59%
		Total					<u>86,651,841</u>		
						Mean		33.95%	66.05%
						Median		32.14%	67.86%
						Weighted Average		32.85%	67.15%
Non-Class 1 Railroads:									
B+	NR	Genesee and Wyoming	26,923	28.13	757,344	122,600	879,944	13.93%	86.07%
B	NR	Rail America	36,905	13.05	481,610	370,300	851,910	43.47%	56.53%
		Total					<u>1,731,854</u>		
						Mean		28.70%	71.30%
						Median		28.70%	71.30%
						Weighted Average		28.46%	71.54%
<hr/>									
Recommended Capital Structures for lien date 1/1/05 are:				Equity	Debt				
Class 1 Railroads:				66%	34%				
Non-Class 1 Railroads:				60%	40%				

Notes:

Staff believes that the capital structure indicated for the Non-Class 1 Railroads is at the upper end of the equity range for the sample companies in light of the current market conditions facing the railroads.

2005 Capitalization Rate Study
Railroad Companies
Interpolation of Railroad Bond and Preferred Stock Yields

Yield Increment from Moody Average Bond Ratings			
a	b	c	d
Moody Average Rating	Moody Average Bond Yield	Number of Increments	Incremental Increase (b/c)

Aa = Aa2	5.66%		
A = A2	<u>5.77%</u>		
Difference	<u><u>0.12%</u></u>	3	0.04%
A = A2	5.77%		
Baa = Baa2	<u>6.10%</u>		
Difference	<u><u>0.33%</u></u>	3	0.11%

Interpolated Railroad Bond Yield			
a	b	c	d
Moody Average Rating	Moody Average Bond Yield	Incremental Increase	Interpolated Bond Yield
Aa2	5.655%		5.66%
Aa3		0.04%	5.69%
A1		0.04%	5.73%
A2	5.770%		5.77%
A3		0.11%	5.88%
Baa1		0.11%	5.99%
Baa2	6.095%		6.10%
Baa3		0.11%	6.20%

2005 Capitalization Rate Study
Railroad Companies
Debt Yield Rates

Bond Rating	Industrial	Public Utility	2005 Average
Aaa	5.43%	NA	5.43%
Aa	5.56%	5.75%	5.66%
A	5.66%	5.88%	5.77%
Baa	6.14%	6.05%	6.10%

Source:

Moody's Daily Long-Term Corporate Bond Yield Averages on 12/31/2004